



SEQUENCE LISTING

<110> Michael  
Garman, Jonathan David

<120> Method of Reducing Injury to Mammalian Cells

<130> 026373-000300US

<140> US 10/584,831

<141> 2004-12-22

<150> US 60/532,169

<151> 2003-12-23

<160> 384

<170> PatentIn version 3.1

<210> 1

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<220>

<221> MISC\_FEATURE

<222> (1)..(4)

<223> 'X' is any amino acid

<400> 1

Xaa Leu Met Leu  
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<210> 2

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

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<400> 2

Glu Trp Lys Phe Ala Arg  
1 5

<210> 3

<211> 93

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 3

Leu Arg Lys Glu Pro Glu Ile Ile Thr Val Thr Leu Lys Lys Gln Asn  
1 5 10 15

Gly Met Gly Leu Ser Ile Val Ala Ala Lys Gly Ala Gly Gln Asp Lys  
20 25 30

Leu Gly Ile Tyr Val Lys Ser Val Val Lys Gly Gly Ala Ala Asp Val  
35 40 45

Asp Gly Arg Leu Ala Ala Gly Asp Gln Leu Leu Ser Val Asp Gly Arg  
50 55 60

Ser Leu Val Gly Leu Ser Gln Glu Arg Ala Ala Glu Leu Met Thr Arg  
65 70 75 80

Thr Ser Ser Val Val Thr Leu Glu Val Ala Lys Gln Gly  
85 90

<210> 4

<211> 105

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 4

Leu Ile Arg Pro Ser Val Ile Ser Ile Ile Gly Leu Tyr Lys Glu Lys  
1 5 10 15

Gly Lys Gly Leu Gly Phe Ser Ile Ala Gly Gly Arg Asp Cys Ile Arg  
20 25 30

Gly Gln Met Gly Ile Phe Val Lys Thr Ile Phe Pro Asn Gly Ser Ala  
35 40 45

Ala Glu Asp Gly Arg Leu Lys Glu Gly Asp Glu Ile Leu Asp Val Asn  
50 55 60

Gly Ile Pro Ile Lys Gly Leu Thr Phe Gln Glu Ala Ile His Thr Phe  
65 70 75 80

Lys Gln Ile Arg Ser Gly Leu Phe Val Leu Thr Val Arg Thr Lys Leu  
85 90 95

Val Ser Pro Ser Leu Thr Asn Ser Ser

100

105

<210> 5  
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<400> 5

Gln Ser Glu Asn Glu Glu Asp Val Cys Phe Ile Val Leu Asn Arg Lys  
 1 5 10 15

Glu Gly Ser Gly Leu Gly Phe Ser Val Ala Gly Gly Thr Asp Val Glu  
 20 25 30

Pro Lys Ser Ile Thr Val His Arg Val Phe Ser Gln Gly Ala Ala Ser  
 35 40 45

Gln Glu Gly Thr Met Asn Arg Gly Asp Phe Leu Leu Ser Val Asn Gly  
 50 55 60

Ala Ser Leu Ala Gly Leu Ala His Gly Asn Val Leu Lys Val Leu His  
 65 70 75 80

Gln Ala Gln Leu His Lys Asp Ala Leu Val Val Ile Lys Lys Gly Met  
 85 90 95

Asp Gln Pro Arg Pro Ser Asn Ser Ser  
 100 105

<210> 6  
 <211> 132  
 <212> PRT  
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<220>  
 <223> Synthetic peptide

<400> 6

Gly Ile Ser Ser Leu Gly Arg Lys Thr Pro Gly Pro Lys Asp Arg Ile  
 1 5 10 15

Val Met Glu Val Thr Leu Asn Lys Glu Pro Arg Val Gly Leu Gly Ile  
 20 25 30

Gly Ala Cys Cys Leu Ala Leu Glu Asn Ser Pro Pro Gly Ile Tyr Ile  
 35 40 45

His Ser Leu Ala Pro Gly Ser Val Ala Lys Met Glu Ser Asn Leu Ser  
 50 55 60

Arg Gly Asp Gln Ile Leu Glu Val Asn Ser Val Asn Val Arg His Ala  
 65 70 75 80

Ala Leu Ser Lys Val His Ala Ile Leu Ser Lys Cys Pro Pro Gly Pro  
 85 90 95

Val Arg Leu Val Ile Gly Arg His Pro Asn Pro Lys Val Ser Glu Gln  
 100 105 110

Glu Met Asp Glu Val Ile Ala Arg Ser Thr Tyr Gln Glu Ser Lys Glu  
 115 120 125

Ala Asn Ser Ser  
 130

<210> 7  
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 <212> PRT  
 <213> Artificial Sequence

<220>  
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<400> 7

Leu Gly Arg Ser Val Ala Val His Asp Ala Leu Cys Val Glu Val Leu  
 1 5 10 15

Lys Thr Ser Ala Gly Leu Gly Leu Ser Leu Asp Gly Gly Lys Ser Ser  
 20 25 30

Val Thr Gly Asp Gly Pro Leu Val Ile Lys Arg Val Tyr Lys Gly Gly  
 35 40 45

Ala Ala Glu Gln Ala Gly Ile Ile Glu Ala Gly Asp Glu Ile Leu Ala  
 50 55 60

Ile Asn Gly Lys Pro Leu Val Gly Leu Met His Phe Asp Ala Trp Asn  
 65 70 75 80

Ile Met Lys Ser Val Pro Glu Gly Pro Val Gln Leu Leu Ile Arg Lys  
 85 90 95



His Arg Asn Ser Ser  
100

<210> 8  
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<212> PRT  
<213> Artificial Sequence

<220>  
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<400> 8

Arg Glu Glu Gly Gly Met Pro Gln Thr Val Ile Leu Pro Gly Pro Ala  
1 5 10 15

Pro Trp Gly Phe Arg Leu Ser Gly Gly Ile Asp Phe Asn Gln Pro Leu  
20 25 30

Val Ile Thr Arg Ile Thr Pro Gly Ser Lys Ala Ala Ala Ala Asn Leu  
35 40 45

Cys Pro Gly Asp Val Ile Leu Ala Ile Asp Gly Phe Gly Thr Glu Ser  
50 55 60

Met Thr His Ala Asp Ala Gln Asp Arg Ile Lys Ala Ala Ala His Gln  
65 70 75 80

Leu Cys Leu Lys Ile Asp Arg Gly Glu Thr His Leu Trp Ser Pro Asn  
85 90 95

Ser Ser

<210> 9  
<211> 85  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 9

Ile Leu Val Glu Val Gln Leu Ser Gly Gly Ala Pro Trp Gly Phe Thr  
1 5 10 15

Leu Lys Gly Gly Arg Glu His Gly Glu Pro Leu Val Ile Thr Lys Ile  
20 25 30

Glu Glu Gly Ser Lys Ala Ala Ala Val Asp Lys Leu Leu Ala Gly Asp

35

40

45

Glu Ile Val Gly Ile Asn Asp Ile Gly Leu Ser Gly Phe Arg Gln Glu  
 50 55 60

Ala Ile Cys Leu Val Lys Gly Ser His Lys Thr Leu Lys Leu Val Val  
 65 70 75 80

Lys Arg Asn Ser Ser  
 85

<210> 10  
 <211> 106  
 <212> PRT  
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<220>  
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<400> 10

Ser Val Gly His Val Arg Gly Pro Gly Pro Ser Val Gln His Thr Thr  
 1 5 10 15

Leu Asn Gly Asp Ser Leu Thr Ser Gln Leu Thr Leu Leu Gly Gly Asn  
 20 25 30

Ala Arg Gly Ser Phe Val His Ser Val Lys Pro Gly Ser Leu Ala Glu  
 35 40 45

Lys Ala Gly Leu Arg Glu Gly His Gln Leu Leu Leu Leu Glu Gly Cys  
 50 55 60

Ile Arg Gly Glu Arg Gln Ser Val Pro Leu Asp Thr Cys Thr Lys Glu  
 65 70 75 80

Glu Ala His Trp Thr Ile Gln Arg Cys Ser Gly Pro Val Thr Leu His  
 85 90 95

Tyr Lys Val Asn His Glu Gly Tyr Arg Lys  
 100 105

<210> 11  
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 <212> PRT  
 <213> Artificial Sequence

<220>  
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<400> 11

Arg Arg Pro Ala Arg Arg Ile Leu Ser Gln Val Thr Met Leu Ala Phe  
1 5 10 15

Gln Gly Asp Ala Leu Leu Glu Gln Ile Ser Val Ile Gly Gly Asn Leu  
20 25 30

Thr Gly Ile Phe Ile His Arg Val Thr Pro Gly Ser Ala Ala Asp Gln  
35 40 45

Met Ala Leu Arg Pro Gly Thr Gln Ile Val Met Val Asp Tyr Glu Ala  
50 55 60

Ser Glu Pro Leu Phe Lys Ala Val Leu Glu Asp Thr Thr Leu Glu Glu  
65 70 75 80

Ala Val Gly Leu Leu Arg Arg Val Asp Gly Phe Cys Cys Leu Ser Val  
85 90 95

Lys Val Asn Thr Asp Gly Tyr Lys Arg  
100 105

<210> 12

<211> 100

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 12

Ile Leu Ser Gln Val Thr Met Leu Ala Phe Gln Gly Asp Ala Leu Leu  
1 5 10 15

Glu Gln Ile Ser Val Ile Gly Gly Asn Leu Thr Gly Ile Phe Ile His  
20 25 30

Arg Val Thr Pro Gly Ser Ala Ala Asp Gln Met Ala Leu Arg Pro Gly  
35 40 45

Thr Gln Ile Val Met Val Asp Tyr Glu Ala Ser Glu Pro Leu Phe Lys  
50 55 60

Ala Val Leu Glu Asp Thr Thr Leu Glu Glu Ala Val Gly Leu Leu Arg  
65 70 75 80

Arg Val Asp Gly Phe Cys Cys Leu Ser Val Lys Val Asn Thr Asp Gly

85

90

95

Tyr Lys Arg Leu  
100

<210> 13  
<211> 90  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 13

Thr Arg Val Arg Leu Val Gln Phe Gln Lys Asn Thr Asp Glu Pro Met  
1 5 10 15

Gly Ile Thr Leu Lys Met Asn Glu Leu Asn His Cys Ile Val Ala Arg  
20 25 30

Ile Met His Gly Gly Met Ile His Arg Gln Gly Thr Leu His Val Gly  
35 40 45

Asp Glu Ile Arg Glu Ile Asn Gly Ile Ser Val Ala Asn Gln Thr Val  
50 55 60

Glu Gln Leu Gln Lys Met Leu Arg Glu Met Arg Gly Ser Ile Thr Phe  
65 70 75 80

Lys Ile Val Pro Ser Tyr Arg Thr Gln Ser  
85 90

<210> 14  
<211> 88  
<212> PRT  
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<220>  
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<400> 14

Leu Glu Gln Lys Ala Val Leu Glu Gln Val Gln Leu Asp Ser Pro Leu  
1 5 10 15

Gly Leu Glu Ile His Thr Thr Ser Asn Cys Gln His Phe Val Ser Gln  
20 25 30

Val Asp Thr Gln Val Pro Thr Asp Ser Arg Leu Gln Ile Gln Pro Gly

35

40

45

Asp Glu Val Val Gln Ile Asn Glu Gln Val Val Val Gly Trp Pro Arg  
 50 55 60

Lys Asn Met Val Arg Glu Leu Leu Arg Glu Pro Ala Gly Leu Ser Leu  
 65 70 75 80

Val Leu Lys Lys Ile Pro Ile Pro  
 85

<210> 15  
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<220>  
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<400> 15

Gln Arg Lys Leu Val Thr Val Glu Lys Gln Asp Asn Glu Thr Phe Gly  
 1 5 10 15

Phe Glu Ile Gln Ser Tyr Arg Pro Gln Asn Gln Asn Ala Cys Ser Ser  
 20 25 30

Glu Met Phe Thr Leu Ile Cys Lys Ile Gln Glu Asp Ser Pro Ala His  
 35 40 45

Cys Ala Gly Leu Gln Ala Gly Asp Val Leu Ala Asn Ile Asn Gly Val  
 50 55 60

Ser Thr Glu Gly Phe Thr Tyr Lys Gln Val Val Asp Leu Ile Arg Ser  
 65 70 75 80

Ser Gly Asn Leu Leu Thr Ile Glu Thr Leu Asn Gly  
 85 90

<210> 16  
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 <212> PRT  
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<220>  
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<400> 16

Arg Cys Leu Ile Gln Thr Lys Gly Gln Arg Ser Met Asp Gly Tyr Pro  
 1 5 10 15

Glu Gln Phe Cys Val Arg Ile Glu Lys Asn Pro Gly Leu Gly Phe Ser  
20 25 30

Ile Ser Gly Gly Ile Ser Gly Gln Gly Asn Pro Phe Lys Pro Ser Asp  
35 40 45

Lys Gly Ile Phe Val Thr Arg Val Gln Pro Asp Gly Pro Ala Ser Asn  
50 55 60

Leu Leu Gln Pro Gly Asp Lys Ile Leu Gln Ala Asn Gly His Ser Phe  
65 70 75 80

Val His Met Glu His Glu Lys Ala Val Leu Leu Leu Lys Ser Phe Gln  
85 90 95

Asn Thr Val Asp Leu Val Ile Gln Arg Glu Leu Thr Val  
100 105

<210> 17  
<211> 97  
<212> PRT  
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<220>  
<223> Synthetic peptide

<400> 17

Pro Thr Ser Pro Glu Ile Gln Glu Leu Arg Gln Met Leu Gln Ala Pro  
1 5 10 15

His Phe Lys Gly Ala Thr Ile Lys Arg His Glu Met Thr Gly Asp Ile  
20 25 30

Leu Val Ala Arg Ile Ile His Gly Gly Leu Ala Glu Arg Ser Gly Leu  
35 40 45

Leu Tyr Ala Gly Asp Lys Leu Val Glu Val Asn Gly Val Ser Val Glu  
50 55 60

Gly Leu Asp Pro Glu Gln Val Ile His Ile Leu Ala Met Ser Arg Gly  
65 70 75 80

Thr Ile Met Phe Lys Val Val Pro Val Ser Asp Pro Pro Val Asn Ser  
85 90 95

Ser

<210> 18  
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 <212> PRT  
 <213> Artificial Sequence

<220>  
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<400> 18

Pro Thr Ser Pro Glu Ile Gln Glu Leu Arg Gln Met Leu Gln Ala Pro  
 1 5 10 15

His Phe Lys Ala Leu Leu Ser Ala His Asp Thr Ile Ala Gln Lys Asp  
 20 25 30

Phe Glu Pro Leu Leu Pro Pro Leu Pro Asp Asn Ile Pro Glu Ser Glu  
 35 40 45

Glu Ala Met Arg Ile Val Cys Leu Val Lys Asn Gln Gln Pro Leu Gly  
 50 55 60

Ala Thr Ile Lys Arg His Glu Met Thr Gly Asp Ile Leu Val Ala Arg  
 65 70 75 80

Ile Ile His Gly Gly Leu Ala Glu Arg Ser Gly Leu Leu Tyr Ala Gly  
 85 90 95

Asp Lys Leu Val Glu Val Asn Gly Val Ser Val Glu Gly Leu Asp Pro  
 100 105 110

Glu Gln Val Ile His Ile Leu Ala Met Ser Arg Gly Thr Ile Met Phe  
 115 120 125

Lys Val Val Pro Val Ser Asp Pro Pro Val Asn Ser Ser  
 130 135 140

<210> 19  
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<220>  
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<400> 19

Ile Gln Val Asn Gly Thr Asp Ala Asp Tyr Glu Tyr Glu Glu Ile Thr

1                      5                      10                      15  
 Leu Glu Arg Gly Asn Ser Gly Leu Gly Phe Ser Ile Ala Gly Gly Thr  
                     20                      25                      30  
 Asp Asn Pro His Ile Gly Asp Asp Ser Ser Ile Phe Ile Thr Lys Ile  
                     35                      40                      45  
 Ile Thr Gly Gly Ala Ala Ala Gln Asp Gly Arg Leu Arg Val Asn Asp  
                     50                      55                      60  
 Cys Ile Leu Gln Val Asn Glu Val Asp Val Arg Asp Val Thr His Ser  
                     65                      70                      75                      80  
 Lys Ala Val Glu Ala Leu Lys Glu Ala Gly Ser Ile Val Arg Leu Tyr  
                     85                      90                      95  
 Val Lys Arg Arg Asn  
                     100

<210> 20  
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 <212> PRT  
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<220>  
 <223> Synthetic peptide

<400> 20

Ile Gln Leu Ile Lys Gly Pro Lys Gly Leu Gly Phe Ser Ile Ala Gly  
 1                      5                      10                      15  
 Gly Val Gly Asn Gln His Ile Pro Gly Asp Asn Ser Ile Tyr Val Thr  
                     20                      25                      30  
 Lys Ile Ile Glu Gly Gly Ala Ala His Lys Asp Gly Lys Leu Gln Ile  
                     35                      40                      45  
 Gly Asp Lys Leu Leu Ala Val Asn Asn Val Cys Leu Glu Glu Val Thr  
                     50                      55                      60  
 His Glu Glu Ala Val Thr Ala Leu Lys Asn Thr Ser Asp Phe Val Tyr  
                     65                      70                      75                      80  
 Leu Lys Val Ala Lys Pro Thr Ser Met Tyr Met Asn Asp Gly Asn  
                     85                      90                      95



<210> 21  
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 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 21

Val Asn Gly Thr Asp Ala Asp Tyr Glu Tyr Glu Glu Ile Thr Leu Glu  
 1 5 10 15

Arg Gly Asn Ser Gly Leu Gly Phe Ser Ile Ala Gly Gly Thr Asp Asn  
 20 25 30

Pro His Ile Gly Asp Asp Ser Ser Ile Phe Ile Thr Lys Ile Ile Thr  
 35 40 45

Gly Gly Ala Ala Ala Gln Asp Gly Arg Leu Arg Val Asn Asp Cys Ile  
 50 55 60

Leu Gln Val Asn Glu Val Asp Val Arg Asp Val Thr His Ser Lys Ala  
 65 70 75 80

Val Glu Ala Leu Lys Glu Ala Gly Ser Ile Val Arg Leu Tyr Val Lys  
 85 90 95

Arg Arg Lys Pro Val Ser Glu Lys Ile Met Glu Ile Lys Leu Ile Lys  
 100 105 110

Gly Pro Lys Gly Leu Gly Phe Ser Ile Ala Gly Gly Val Gly Asn Gln  
 115 120 125

His Ile Pro Gly Asp Asn Ser Ile Tyr Val Thr Lys Ile Ile Glu Gly  
 130 135 140

Gly Ala Ala His Lys Asp Gly Lys Leu Gln Ile Gly Asp Lys Leu Leu  
 145 150 155 160

Ala Val Asn Asn Val Cys Leu Glu Glu Val Thr His Glu Glu Ala Val  
 165 170 175

Thr Ala Leu Lys Asn Thr Ser Asp Phe Val Tyr Leu Lys Val Ala Lys  
 180 185 190

Pro Thr Ser Met Tyr Met Asn Asp Gly Tyr Ala  
 195 200

<210> 22  
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<213> Artificial Sequence

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<400> 22

Ile Leu His Arg Gly Ser Thr Gly Leu Gly Phe Asn Ile Val Gly Gly  
1 5 10 15

Glu Asp Gly Glu Gly Ile Phe Ile Ser Phe Ile Leu Ala Gly Gly Pro  
20 25 30

Ala Asp Leu Ser Gly Glu Leu Arg Lys Gly Asp Arg Ile Ile Ser Val  
35 40 45

Asn Ser Val Asp Leu Arg Ala Ala Ser His Glu Gln Ala Ala Ala Ala  
50 55 60

Leu Lys Asn Ala Gly Gln Ala Val Thr Ile Val Ala Gln Tyr Arg Pro  
65 70 75 80

Glu Glu Tyr Ser Arg  
85

<210> 23  
<211> 110  
<212> PRT  
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<220>  
<223> Synthetic peptide

<400> 23

Ile Glu Gly Arg Gly Ile Leu Glu Gly Glu Pro Arg Lys Val Val Leu  
1 5 10 15

His Lys Gly Ser Thr Gly Leu Gly Phe Asn Ile Val Gly Gly Glu Asp  
20 25 30

Gly Glu Gly Ile Phe Val Ser Phe Ile Leu Ala Gly Gly Pro Ala Asp  
35 40 45

Leu Ser Gly Glu Leu Gln Arg Gly Asp Gln Ile Leu Ser Val Asn Gly  
50 55 60

Ile Asp Leu Arg Gly Ala Ser His Glu Gln Ala Ala Ala Ala Leu Lys  
65 70 75 80

Gly Ala Gly Gln Thr Val Thr Ile Ile Ala Gln His Gln Pro Glu Asp  
85 90 95

Tyr Ala Arg Phe Glu Ala Lys Ile His Asp Leu Asn Ser Ser  
100 105 110

<210> 24  
<211> 101  
<212> PRT  
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<220>  
<223> Synthetic peptide

<400> 24

Ile Ser Tyr Val Asn Gly Thr Glu Ile Glu Tyr Glu Phe Glu Glu Ile  
1 5 10 15

Thr Leu Glu Arg Gly Asn Ser Gly Leu Gly Phe Ser Ile Ala Gly Gly  
20 25 30

Thr Asp Asn Pro His Ile Gly Asp Asp Pro Gly Ile Phe Ile Thr Lys  
35 40 45

Ile Ile Pro Gly Gly Ala Ala Ala Glu Asp Gly Arg Leu Arg Val Asn  
50 55 60

Asp Cys Ile Leu Arg Val Asn Glu Val Asp Val Ser Glu Val Ser His  
65 70 75 80

Ser Lys Ala Val Glu Ala Leu Lys Glu Ala Gly Ser Ile Val Arg Leu  
85 90 95

Tyr Val Arg Arg Arg  
100

<210> 25  
<211> 113  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 25

Ile Pro Ile Leu Glu Thr Val Val Glu Ile Lys Leu Phe Lys Gly Pro

|   |     |     |     |
|---|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Lys Gly Leu Gly Phe Ser Ile Ala Gly Gly Val Gly Asn Gln His Ile | 20  | 25  | 30  |
| Pro Gly Asp Asn Ser Ile Tyr Val Thr Lys Ile Ile Asp Gly Gly Ala | 35  | 40  | 45  |
| Ala Gln Lys Asp Gly Arg Leu Gln Val Gly Asp Arg Leu Leu Met Val | 50  | 55  | 60  |
| Asn Asn Tyr Ser Leu Glu Glu Val Thr His Glu Glu Ala Val Ala Ile | 65  | 70  | 75  |
| Leu Lys Asn Thr Ser Glu Val Val Tyr Leu Lys Val Gly Lys Pro Thr | 85  | 90  | 95  |
| Thr Ile Tyr Met Thr Asp Pro Tyr Gly Pro Pro Asn Ser Ser Leu Thr | 100 | 105 | 110 |

Asp

<210> 26  
 <211> 101  
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 <213> Artificial Sequence

<220>  
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<400> 26

|   |    |    |    |    |
|---|----|----|----|----|
| Gly Ile Pro Tyr Val Glu Glu Pro Arg His Val Lys Val Gln Lys Gly | 1  | 5  | 10 | 15 |
| Ser Glu Pro Leu Gly Ile Ser Ile Val Ser Gly Glu Lys Gly Gly Ile | 20 | 25 | 30 |    |
| Tyr Val Ser Lys Val Thr Val Gly Ser Ile Ala His Gln Ala Gly Leu | 35 | 40 | 45 |    |
| Glu Tyr Gly Asp Gln Leu Leu Glu Phe Asn Gly Ile Asn Leu Arg Ser | 50 | 55 | 60 |    |
| Ala Thr Glu Gln Gln Ala Arg Leu Ile Ile Gly Gln Gln Cys Asp Thr | 65 | 70 | 75 | 80 |

Ile Thr Ile Leu Ala Gln Tyr Asn Pro His Val His Gln Leu Arg Asn  
85 90 95

Ser Ser Leu Thr Asp  
100

<210> 27  
<211> 103  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 27

Gly Ile Leu Ala Gly Asp Ala Asn Lys Lys Thr Leu Glu Pro Arg Val  
1 5 10 15

Val Phe Ile Lys Lys Ser Gln Leu Glu Leu Gly Val His Leu Cys Gly  
20 25 30

Gly Asn Leu His Gly Val Phe Val Ala Glu Val Glu Asp Asp Ser Pro  
35 40 45

Ala Lys Gly Pro Asp Gly Leu Val Pro Gly Asp Leu Ile Leu Glu Tyr  
50 55 60

Gly Ser Leu Asp Val Arg Asn Lys Thr Val Glu Glu Val Tyr Val Glu  
65 70 75 80

Met Leu Lys Pro Arg Asp Gly Val Arg Leu Lys Val Gln Tyr Arg Pro  
85 90 95

Glu Glu Phe Ile Val Thr Asp  
100

<210> 28  
<211> 93  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 28

Leu Asn Ile Val Thr Val Thr Leu Asn Met Glu Arg His His Phe Leu  
1 5 10 15

Gly Ile Ser Ile Val Gly Gln Ser Asn Asp Arg Gly Asp Gly Gly Ile

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 20  |     | 25  |     | 30  |     |     |     |     |     |     |     |     |     |     |
| Tyr | Ile | Gly | Ser | Ile | Met | Lys | Gly | Gly | Ala | Val | Ala | Ala | Asp | Gly | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Glu | Pro | Gly | Asp | Met | Leu | Leu | Gln | Val | Asn | Asp | Val | Asn | Phe | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Met | Ser | Asn | Asp | Asp | Ala | Val | Arg | Val | Leu | Arg | Glu | Ile | Val | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gln | Thr | Gly | Pro | Ile | Ser | Leu | Thr | Val | Ala | Lys | Cys | Trp |     |     |     |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     |     |

<210> 29

<211> 100

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 29

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Asn | Ile | Ile | Thr | Val | Thr | Leu | Asn | Met | Glu | Lys | Tyr | Asn | Phe | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ile | Ser | Ile | Val | Gly | Gln | Ser | Asn | Glu | Arg | Gly | Asp | Gly | Gly | Ile |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Ile | Gly | Ser | Ile | Met | Lys | Gly | Gly | Ala | Val | Ala | Ala | Asp | Gly | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Glu | Pro | Gly | Asp | Met | Leu | Leu | Gln | Val | Asn | Asp | Met | Asn | Phe | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Met | Ser | Asn | Asp | Asp | Ala | Val | Arg | Val | Leu | Arg | Asp | Ile | Val | His |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Pro | Gly | Pro | Ile | Val | Leu | Thr | Val | Ala | Lys | Cys | Trp | Asp | Pro | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

|     |     |     |     |
|-----|-----|-----|-----|
| Pro | Gln | Asn | Ser |
|     |     |     | 100 |

<210> 30

<211> 95

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 30

Ile Ile Thr Val Thr Leu Asn Met Glu Lys Tyr Asn Phe Leu Gly Ile  
1 5 10 15

Ser Ile Val Gly Gln Ser Asn Glu Arg Gly Asp Gly Gly Ile Tyr Ile  
20 25 30

Gly Ser Ile Met Lys Gly Gly Ala Val Ala Ala Asp Gly Arg Ile Glu  
35 40 45

Pro Gly Asp Met Leu Leu Gln Val Asn Glu Ile Asn Phe Glu Asn Met  
50 55 60

Ser Asn Asp Asp Ala Val Arg Val Leu Arg Glu Ile Val His Lys Pro  
65 70 75 80

Gly Pro Ile Thr Leu Thr Val Ala Lys Cys Trp Asp Pro Ser Pro  
85 90 95

<210> 31

<211> 98

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 31

Gln Gln Arg Glu Leu Arg Pro Arg Leu Cys Thr Met Lys Lys Gly Pro  
1 5 10 15

Ser Gly Tyr Gly Phe Asn Leu His Ser Asp Lys Ser Lys Pro Gly Gln  
20 25 30

Phe Ile Arg Ser Val Asp Pro Asp Ser Pro Ala Glu Ala Ser Gly Leu  
35 40 45

Arg Ala Gln Asp Arg Ile Val Glu Val Asn Gly Val Cys Met Glu Gly  
50 55 60

Lys Gln His Gly Asp Val Val Ser Ala Ile Arg Ala Gly Gly Asp Glu  
65 70 75 80

Thr Lys Leu Leu Val Val Asp Arg Glu Thr Asp Glu Phe Phe Lys Asn  
85 90 95

Ser Ser

<210> 32  
<211> 155  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 32

Gly Ile Gln Met Ser Ala Asp Ala Ala Ala Gly Ala Pro Leu Pro Arg  
1 5 10 15

Leu Cys Cys Leu Glu Lys Gly Pro Asn Gly Tyr Gly Phe His Leu His  
20 25 30

Gly Glu Lys Gly Lys Leu Gly Gln Tyr Ile Arg Leu Val Glu Pro Gly  
35 40 45

Ser Pro Ala Glu Lys Ala Gly Leu Leu Ala Gly Asp Arg Leu Val Glu  
50 55 60

Val Asn Gly Glu Asn Val Glu Lys Glu Thr His Gln Gln Val Val Ser  
65 70 75 80

Arg Ile Arg Ala Ala Leu Asn Ala Val Arg Leu Leu Val Val Asp Pro  
85 90 95

Glu Thr Asp Glu Gln Leu Gln Lys Leu Gly Val Gln Val Arg Glu Glu  
100 105 110

Leu Leu Arg Ala Gln Glu Ala Pro Gly Gln Ala Glu Pro Pro Ala Ala  
115 120 125

Ala Glu Val Gln Gly Ala Gly Asn Glu Asn Glu Pro Arg Glu Ala Asp  
130 135 140

Lys Ser His Pro Glu Gln Arg Glu Leu Arg Asn  
145 150 155

<210> 33  
<211> 243



<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 33

Gly Ile Gln Met Ser Ala Asp Ala Ala Ala Gly Ala Pro Leu Pro Arg  
1 5 10 15

Leu Cys Cys Leu Glu Lys Gly Pro Asn Gly Tyr Gly Phe His Leu His  
20 25 30

Gly Glu Lys Gly Lys Leu Gly Gln Tyr Ile Arg Leu Val Glu Pro Gly  
35 40 45

Ser Pro Ala Glu Lys Ala Gly Leu Leu Ala Gly Asp Arg Leu Val Glu  
50 55 60

Val Asn Gly Glu Asn Val Glu Lys Glu Thr His Gln Gln Val Val Ser  
65 70 75 80

Arg Ile Arg Ala Ala Leu Asn Ala Val Arg Leu Leu Val Val Asp Pro  
85 90 95

Glu Thr Asp Glu Gln Leu Gln Lys Leu Gly Val Gln Val Arg Glu Glu  
100 105 110

Leu Leu Arg Ala Gln Glu Ala Pro Gly Gln Ala Glu Pro Pro Ala Ala  
115 120 125

Ala Glu Val Gln Gly Ala Gly Asn Glu Asn Glu Pro Arg Glu Ala Asp  
130 135 140

Lys Ser His Pro Glu Gln Arg Glu Leu Arg Pro Arg Leu Cys Thr Met  
145 150 155 160

Lys Lys Gly Pro Ser Gly Tyr Gly Phe Asn Leu His Ser Asp Lys Ser  
165 170 175

Lys Pro Gly Gln Phe Ile Arg Ser Val Asp Pro Asp Ser Pro Ala Glu  
180 185 190

Ala Ser Gly Leu Arg Ala Gln Asp Arg Ile Val Glu Val Asn Gly Val  
195 200 205

Cys Met Glu Gly Lys Gln His Gly Asp Val Val Ser Ala Ile Arg Ala  
 210 215 220

Gly Gly Asp Glu Thr Lys Leu Leu Val Val Asp Arg Glu Thr Asp Glu  
 225 230 235 240

Phe Phe Lys

<210> 34  
 <211> 155  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 34

Gln Met Ser Ala Asp Ala Ala Ala Gly Ala Pro Leu Pro Arg Leu Cys  
 1 5 10 15

Cys Leu Glu Lys Gly Pro Asn Gly Tyr Gly Phe His Leu His Gly Glu  
 20 25 30

Lys Gly Lys Leu Gly Gln Tyr Ile Arg Leu Val Glu Pro Gly Ser Pro  
 35 40 45

Ala Glu Lys Ala Gly Leu Leu Ala Gly Asp Arg Leu Val Glu Val Asn  
 50 55 60

Gly Glu Asn Val Glu Lys Glu Thr His Gln Gln Val Val Ser Arg Ile  
 65 70 75 80

Arg Ala Ala Leu Asn Ala Val Arg Leu Leu Val Val Asp Pro Glu Thr  
 85 90 95

Asp Glu Gln Leu Gln Lys Leu Gly Val Gln Val Arg Glu Glu Leu Leu  
 100 105 110

Arg Ala Gln Glu Ala Pro Gly Gln Ala Glu Pro Pro Ala Ala Ala Glu  
 115 120 125

Val Gln Gly Ala Gly Asn Glu Asn Glu Pro Arg Glu Ala Asp Lys Ser  
 130 135 140

His Pro Glu Gln Arg Glu Leu Arg Asn Ser Ser  
 145 150 155

<210> 35  
 <211> 98  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 35

Leu Thr Thr Gln Gln Ile Asp Leu Gln Gly Pro Gly Pro Trp Gly Phe  
 1 5 10 15

Arg Leu Val Gly Gly Lys Asp Phe Glu Gln Pro Leu Ala Ile Ser Arg  
 20 25 30

Val Thr Pro Gly Ser Lys Ala Ala Leu Ala Asn Leu Cys Ile Gly Asp  
 35 40 45

Val Ile Thr Ala Ile Asp Gly Glu Asn Thr Ser Asn Met Thr His Leu  
 50 55 60

Glu Ala Gln Asn Arg Ile Lys Gly Cys Thr Asp Asn Leu Thr Leu Thr  
 65 70 75 80

Val Ala Arg Ser Glu His Lys Val Trp Ser Pro Leu Val Thr Asn Ser  
 85 90 95

Ser Trp

<210> 36  
 <211> 89  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 36

Ile Phe Met Asp Ser Phe Lys Val Val Leu Glu Gly Pro Ala Pro Trp  
 1 5 10 15

Gly Phe Arg Leu Gln Gly Gly Lys Asp Phe Asn Val Pro Leu Ser Ile  
 20 25 30

Ser Arg Leu Thr Pro Gly Gly Lys Ala Ala Gln Ala Gly Val Ala Val  
 35 40 45

Gly Asp Trp Val Leu Ser Ile Asp Gly Glu Asn Ala Gly Ser Leu Thr  
50 55 60

His Ile Glu Ala Gln Asn Lys Ile Arg Ala Cys Gly Glu Arg Leu Ser  
65 70 75 80

Leu Gly Leu Ser Arg Ala Gln Pro Val  
85

<210> 37  
<211> 100

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 37

Gln Gly His Glu Leu Ala Lys Gln Glu Ile Arg Val Arg Val Glu Lys  
1 5 10 15

Asp Pro Glu Leu Gly Phe Ser Ile Ser Gly Gly Val Gly Gly Arg Gly  
20 25 30

Asn Pro Phe Arg Pro Asp Asp Asp Gly Ile Phe Val Thr Arg Val Gln  
35 40 45

Pro Glu Gly Pro Ala Ser Lys Leu Leu Gln Pro Gly Asp Lys Ile Ile  
50 55 60

Gln Ala Asn Gly Tyr Ser Phe Ile Asn Ile Glu His Gly Gln Ala Val  
65 70 75 80

Ser Leu Leu Lys Thr Phe Gln Asn Thr Val Glu Leu Ile Ile Val Arg  
85 90 95

Glu Val Ser Ser  
100

<210> 38  
<211> 107  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 38

Lys Asn Pro Ser Gly Glu Leu Lys Thr Val Thr Leu Ser Lys Met Lys  
 1 5 10 15

Gln Ser Leu Gly Ile Ser Ile Ser Gly Gly Ile Glu Ser Lys Val Gln  
 20 25 30

Pro Met Val Lys Ile Glu Lys Ile Phe Pro Gly Gly Ala Ala Phe Leu  
 35 40 45

Ser Gly Ala Leu Gln Ala Gly Phe Glu Leu Val Ala Val Asp Gly Glu  
 50 55 60

Asn Leu Glu Gln Val Thr His Gln Arg Ala Val Asp Thr Ile Arg Arg  
 65 70 75 80

Ala Tyr Arg Asn Lys Ala Arg Glu Pro Met Glu Leu Val Val Arg Val  
 85 90 95

Pro Gly Pro Ser Pro Arg Pro Ser Pro Ser Asp  
 100 105

<210> 39  
 <211> 97  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 39

Glu Gly His Ser His Pro Arg Val Val Glu Leu Pro Lys Thr Glu Glu  
 1 5 10 15

Gly Leu Gly Phe Asn Ile Met Gly Gly Lys Glu Gln Asn Ser Pro Ile  
 20 25 30

Tyr Ile Ser Arg Ile Ile Pro Gly Gly Ile Ala Asp Arg His Gly Gly  
 35 40 45

Leu Lys Arg Gly Asp Gln Leu Leu Ser Val Asn Gly Val Ser Val Glu  
 50 55 60

Gly Glu His His Glu Lys Ala Val Glu Leu Leu Lys Ala Ala Gln Gly  
 65 70 75 80

Lys Val Lys Leu Val Val Arg Tyr Thr Pro Lys Val Leu Glu Glu Met  
 85 90 95

Glu

<210> 40  
<211> 88  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 40

Pro Gly Ala Pro Tyr Ala Arg Lys Thr Phe Thr Ile Val Gly Asp Ala  
1 5 10 15

Val Gly Trp Gly Phe Val Val Arg Gly Ser Lys Pro Cys His Ile Gln  
20 25 30

Ala Val Asp Pro Ser Gly Pro Ala Ala Ala Gly Met Lys Val Cys  
35 40 45

Gln Phe Val Val Ser Val Asn Gly Leu Asn Val Leu His Val Asp Tyr  
50 55 60

Arg Thr Val Ser Asn Leu Ile Leu Thr Gly Pro Arg Thr Ile Val Met  
65 70 75 80

Glu Val Met Glu Glu Leu Glu Cys  
85

<210> 41  
<211> 97  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 41

Gly Gln Tyr Gly Gly Glu Thr Val Lys Ile Val Arg Ile Glu Lys Ala  
1 5 10 15

Arg Asp Ile Pro Leu Gly Ala Thr Val Arg Asn Glu Met Asp Ser Val  
20 25 30

Ile Ile Ser Arg Ile Val Lys Gly Gly Ala Ala Glu Lys Ser Gly Leu  
35 40 45

Leu His Glu Gly Asp Glu Val Leu Glu Ile Asn Gly Ile Glu Ile Arg  
50 55 60

Gly Lys Asp Val Asn Glu Val Phe Asp Leu Leu Ser Asp Met His Gly  
65 70 75 80

Thr Leu Thr Phe Val Leu Ile Pro Ser Gln Gln Ile Lys Pro Pro Pro  
85 90 95

Ala

<210> 42  
<211> 104  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 42

Lys Pro Ser Gln Ala Ser Gly His Phe Ser Val Glu Leu Val Arg Gly  
1 5 10 15

Tyr Ala Gly Phe Gly Leu Thr Leu Gly Gly Gly Arg Asp Val Ala Gly  
20 25 30

Asp Thr Pro Leu Ala Val Arg Gly Leu Leu Lys Asp Gly Pro Ala Gln  
35 40 45

Arg Cys Gly Arg Leu Glu Val Gly Asp Leu Val Leu His Ile Asn Gly  
50 55 60

Glu Ser Thr Gln Gly Leu Thr His Ala Gln Ala Val Glu Arg Ile Arg  
65 70 75 80

Ala Gly Gly Pro Gln Leu His Leu Val Ile Arg Arg Pro Leu Glu Thr  
85 90 95

His Pro Gly Lys Pro Arg Gly Val  
100

<210> 43  
<211> 101  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 43

Pro Val Met Ser Gln Cys Ala Cys Leu Glu Glu Val His Leu Pro Asn  
1 5 10 15

Ile Lys Pro Gly Glu Gly Leu Gly Met Tyr Ile Lys Ser Thr Tyr Asp  
20 25 30

Gly Leu His Val Ile Thr Gly Thr Thr Glu Asn Ser Pro Ala Asp Arg  
35 40 45

Ser Gln Lys Ile His Ala Gly Asp Glu Val Thr Gln Val Asn Gln Gln  
50 55 60

Thr Val Val Gly Trp Gln Leu Lys Asn Leu Val Lys Lys Leu Arg Glu  
65 70 75 80

Asn Pro Thr Gly Val Val Leu Leu Leu Lys Lys Arg Pro Thr Gly Ser  
85 90 95

Phe Asn Phe Thr Pro  
100

<210> 44

<211> 97

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 44

Ile Asp Asp Glu Glu Asp Ser Val Lys Ile Ile Arg Leu Val Lys Asn  
1 5 10 15

Arg Glu Pro Leu Gly Ala Thr Ile Lys Lys Asp Glu Gln Thr Gly Ala  
20 25 30

Ile Ile Val Ala Arg Ile Met Arg Gly Gly Ala Ala Asp Arg Ser Gly  
35 40 45

Leu Ile His Val Gly Asp Glu Leu Arg Glu Val Asn Gly Ile Pro Val  
50 55 60

Glu Asp Lys Arg Pro Glu Glu Ile Ile Gln Ile Leu Ala Gln Ser Gln  
65 70 75 80



Gly Ala Ile Thr Phe Lys Ile Ile Pro Gly Ser Lys Glu Glu Thr Pro  
85 90 95

Ser

<210> 45

<211> 452

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 45

Met Gly Ser Ser Gln Ser Val Glu Ile Pro Gly Gly Gly Thr Glu Gly  
1 5 10 15

Tyr His Val Leu Arg Val Gln Glu Asn Ser Pro Gly His Arg Ala Gly  
20 25 30

Leu Glu Pro Phe Phe Asp Phe Ile Val Ser Ile Asn Gly Ser Arg Leu  
35 40 45

Asn Lys Asp Asn Asp Thr Leu Lys Asp Leu Leu Lys Ala Asn Val Glu  
50 55 60

Lys Pro Val Lys Met Leu Ile Tyr Ser Ser Lys Thr Leu Glu Leu Arg  
65 70 75 80

Glu Thr Ser Val Thr Pro Ser Asn Leu Trp Gly Gly Gln Gly Leu Leu  
85 90 95

Gly Val Ser Ile Arg Phe Cys Ser Phe Asp Gly Ala Asn Glu Asn Val  
100 105 110

Trp His Val Leu Glu Val Glu Ser Asn Ser Pro Ala Ala Leu Ala Gly  
115 120 125

Leu Arg Pro His Ser Asp Tyr Ile Ile Gly Ala Asp Thr Val Met Asn  
130 135 140

Glu Ser Glu Asp Leu Phe Ser Leu Ile Glu Thr His Glu Ala Lys Pro  
145 150 155 160

Leu Lys Leu Tyr Val Tyr Asn Thr Asp Thr Asp Asn Cys Arg Glu Val  
 165 170 175

Ile Ile Thr Pro Asn Ser Ala Trp Gly Gly Glu Gly Ser Leu Gly Cys  
 180 185 190

Gly Ile Gly Tyr Gly Tyr Leu His Arg Ile Pro Thr Arg Pro Phe Glu  
 195 200 205

Glu Gly Lys Lys Ile Ser Leu Pro Gly Gln Met Ala Gly Thr Pro Ile  
 210 215 220

Thr Pro Leu Lys Asp Gly Phe Thr Glu Val Gln Leu Ser Ser Val Asn  
 225 230 235 240

Pro Pro Ser Leu Ser Pro Pro Gly Thr Thr Gly Ile Glu Gln Ser Leu  
 245 250 255

Thr Gly Leu Ser Ile Ser Ser Thr Pro Pro Ala Val Ser Ser Val Leu  
 260 265 270

Ser Thr Gly Val Pro Thr Val Pro Leu Leu Pro Pro Gln Val Asn Gln  
 275 280 285

Ser Leu Thr Ser Val Pro Pro Met Asn Pro Ala Thr Thr Leu Pro Gly  
 290 295 300

Leu Met Pro Leu Pro Ala Gly Leu Pro Asn Leu Pro Asn Leu Asn Leu  
 305 310 315 320

Asn Leu Pro Ala Pro His Ile Met Pro Gly Val Gly Leu Pro Glu Leu  
 325 330 335

Val Asn Pro Gly Leu Pro Pro Leu Pro Ser Met Pro Pro Arg Asn Leu  
 340 345 350

Pro Gly Ile Ala Pro Leu Pro Leu Pro Ser Glu Phe Leu Pro Ser Phe  
 355 360 365

Pro Leu Val Pro Glu Ser Ser Ser Ala Ala Ser Ser Gly Glu Leu Leu  
 370 375 380

Ser Ser Leu Pro Pro Thr Ser Asn Ala Pro Ser Asp Pro Ala Thr Thr  
 385 390 395 400

Thr Ala Lys Ala Asp Ala Ala Ser Ser Leu Thr Val Asp Val Thr Pro  
405 410 415

Pro Thr Ala Lys Ala Pro Thr Thr Val Glu Asp Arg Val Gly Asp Ser  
420 425 430

Thr Pro Val Ser Glu Lys Pro Val Ser Ala Ala Val Asp Ala Asn Ala  
435 440 445

Ser Glu Ser Pro  
450

<210> 46  
<211> 97  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 46

Asn Glu Asn Val Trp His Val Leu Glu Val Glu Ser Asn Ser Pro Ala  
1 5 10 15

Ala Leu Ala Gly Leu Arg Pro His Ser Asp Tyr Ile Ile Gly Ala Asp  
20 25 30

Thr Val Met Asn Glu Ser Glu Asp Leu Phe Ser Leu Ile Glu Thr His  
35 40 45

Glu Ala Lys Pro Leu Lys Leu Tyr Val Tyr Asn Thr Asp Thr Asp Asn  
50 55 60

Cys Arg Glu Val Ile Ile Thr Pro Asn Ser Ala Trp Gly Gly Glu Gly  
65 70 75 80

Ser Leu Gly Cys Gly Ile Gly Tyr Gly Tyr Leu His Arg Ile Pro Thr  
85 90 95

Arg

<210> 47  
<211> 110  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 47

Met Gly Ser Ser Gln Ser Val Glu Ile Pro Gly Gly Gly Thr Glu Gly  
1 5 10 15

Tyr His Val Leu Arg Val Gln Glu Asn Ser Pro Gly His Arg Ala Gly  
20 25 30

Leu Glu Pro Phe Phe Asp Phe Ile Val Ser Ile Asn Gly Ser Arg Leu  
35 40 45

Asn Lys Asp Asn Asp Thr Leu Lys Asp Leu Leu Lys Ala Asn Val Glu  
50 55 60

Lys Pro Val Lys Met Leu Ile Tyr Ser Ser Lys Thr Leu Glu Leu Arg  
65 70 75 80

Glu Thr Ser Val Thr Pro Ser Asn Leu Trp Gly Gly Gln Gly Leu Leu  
85 90 95

Gly Val Ser Ile Arg Phe Cys Ser Phe Asp Gly Ala Asn Glu  
100 105 110

<210> 48

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 48

Arg Ala Ser Glu Gln Val Trp His Val Leu Asp Val Glu Pro Ser Ser  
1 5 10 15

Pro Ala Ala Leu Ala Gly Leu Arg Pro Tyr Thr Asp Tyr Val Val Gly  
20 25 30

Ser Asp Gln Ile Leu Gln Glu Ser Glu Asp Phe Phe Thr Leu Ile Glu  
35 40 45

Ser His Glu Gly Lys Pro Leu Lys Leu Met Val Tyr Asn Ser Lys Ser  
50 55 60

Asp Ser Cys Arg Glu Val Thr Val Thr Pro Asn Ala Ala Trp Gly Gly  
65 70 75 80

Glu Gly Ser Leu Gly Cys Gly Ile Gly Tyr Gly Tyr Leu His Arg Ile  
85 90 95

Pro Thr Gln

<210> 49  
<211> 110  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 49

Met Gly Leu Gly Val Ser Ala Glu Gln Pro Ala Gly Gly Ala Glu Gly  
1 5 10 15

Phe His Leu His Gly Val Gln Glu Asn Ser Pro Ala Gln Gln Ala Gly  
20 25 30

Leu Glu Pro Tyr Phe Asp Phe Ile Ile Thr Ile Gly His Ser Arg Leu  
35 40 45

Asn Lys Glu Asn Asp Thr Leu Lys Ala Leu Leu Lys Ala Asn Val Glu  
50 55 60

Lys Pro Val Lys Leu Glu Val Phe Asn Met Lys Thr Met Arg Val Arg  
65 70 75 80

Glu Val Glu Val Val Pro Ser Asn Met Trp Gly Gly Gln Gly Leu Leu  
85 90 95

Gly Ala Ser Val Arg Phe Cys Ser Phe Arg Arg Ala Ser Glu  
100 105 110

<210> 50  
<211> 440  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 50

Met Gly Leu Gly Val Ser Ala Glu Gln Pro Ala Gly Gly Ala Glu Gly  
1 5 10 15

Phe His Leu His Gly Val Gln Glu Asn Ser Pro Ala Gln Gln Ala Gly

|   |     |     |
|---|-----|-----|
| 20  | 25  | 30  |
| Leu Glu Pro Tyr Phe Asp Phe Ile Ile Thr Ile Gly His Ser Arg Leu |     |     |
| 35  | 40  | 45  |
| Asn Lys Glu Asn Asp Thr Leu Lys Ala Leu Leu Lys Ala Asn Val Glu |     |     |
| 50  | 55  | 60  |
| Lys Pro Val Lys Leu Glu Val Phe Asn Met Lys Thr Met Arg Val Arg |     |     |
| 65  | 70  | 75  |
| Glu Val Glu Val Val Pro Ser Asn Met Trp Gly Gly Gln Gly Leu Leu |     |     |
|   | 85  | 90  |
| Gly Ala Ser Val Arg Phe Cys Ser Phe Arg Arg Ala Ser Glu Gln Val |     |     |
|   | 100 | 105 |
| Trp His Val Leu Asp Val Glu Pro Ser Ser Pro Ala Ala Leu Ala Gly |     |     |
|   | 115 | 120 |
| Leu Arg Pro Tyr Thr Asp Tyr Val Val Gly Ser Asp Gln Ile Leu Gln |     |     |
|   | 130 | 135 |
| Glu Ser Glu Asp Phe Phe Thr Leu Ile Glu Ser His Glu Gly Lys Pro |     |     |
| 145   | 150 | 155 |
| Leu Lys Leu Met Val Tyr Asn Ser Lys Ser Asp Ser Cys Arg Glu Val |     |     |
|   | 165 | 170 |
| Thr Val Thr Pro Asn Ala Ala Trp Gly Gly Glu Gly Ser Leu Gly Cys |     |     |
|   | 180 | 185 |
| Gly Ile Gly Tyr Gly Tyr Leu His Arg Ile Pro Thr Gln Pro Pro Ser |     |     |
|   | 195 | 200 |
| Tyr His Lys Lys Pro Pro Gly Thr Pro Pro Pro Ser Ala Leu Pro Leu |     |     |
|   | 210 | 215 |
| Gly Ala Pro Pro Pro Asp Ala Leu Pro Pro Gly Pro Thr Pro Glu Asp |     |     |
| 225   | 230 | 235 |
| Ser Pro Ser Leu Glu Thr Gly Ser Arg Gln Ser Asp Tyr Met Glu Ala |     |     |
|   | 245 | 250 |
| Leu Leu Gln Ala Pro Gly Ser Ser Met Glu Asp Pro Leu Pro Gly Pro |     |     |
|   | 260 | 265 |
|   |     | 270 |

Gly Ser Pro Ser His Ser Ala Pro Asp Pro Asp Gly Leu Pro His Phe  
275 280 285

Met Glu Thr Pro Leu Gln Pro Pro Pro Pro Val Gln Arg Val Met Asp  
290 295 300

Pro Gly Phe Leu Asp Val Ser Gly Ile Ser Leu Leu Asp Asn Ser Asn  
305 310 315 320

Ala Ser Val Trp Pro Ser Leu Pro Ser Ser Thr Glu Leu Thr Thr Thr  
325 330 335

Ala Val Ser Thr Ser Gly Pro Glu Asp Ile Cys Ser Ser Ser Ser Ser  
340 345 350

His Glu Arg Gly Gly Glu Ala Thr Trp Ser Gly Ser Glu Phe Glu Val  
355 360 365

Ser Phe Leu Asp Ser Pro Gly Ala Gln Ala Gln Ala Asp His Leu Pro  
370 375 380

Gln Leu Thr Leu Pro Asp Ser Leu Thr Ser Ala Ala Ser Pro Glu Asp  
385 390 395 400

Gly Leu Ser Ala Glu Leu Leu Glu Ala Gln Ala Glu Glu Glu Pro Ala  
405 410 415

Ser Thr Glu Gly Leu Asp Thr Gly Thr Glu Ala Glu Gly Leu Asp Ser  
420 425 430

Gln Ala Gln Ile Ser Thr Thr Glu  
435 440

<210> 51  
<211> 90  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 51

Ile Tyr Thr Val Glu Leu Lys Arg Tyr Gly Gly Pro Leu Gly Ile Thr  
1 5 10 15

Ile Ser Gly Thr Glu Glu Pro Phe Asp Pro Ile Ile Ile Ser Ser Leu

20

25

30

Thr Lys Gly Gly Leu Ala Glu Arg Thr Gly Ala Ile His Ile Gly Asp  
 35 40 45

Arg Ile Leu Ala Ile Asn Ser Ser Ser Leu Lys Gly Lys Pro Leu Ser  
 50 55 60

Glu Ala Ile His Leu Leu Gln Met Ala Gly Glu Thr Val Thr Leu Lys  
 65 70 75 80

Ile Lys Lys Gln Thr Asp Ala Gln Ser Ala  
 85 90

<210> 52

<211> 83

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 52

Val Val Glu Leu Met Lys Lys Glu Gly Thr Thr Leu Gly Leu Thr Val  
 1 5 10 15

Ser Gly Gly Ile Asp Lys Asp Gly Lys Pro Arg Val Ser Asn Leu Arg  
 20 25 30

Gln Gly Gly Ile Ala Ala Arg Ser Asp Gln Leu Asp Val Gly Asp Tyr  
 35 40 45

Ile Lys Ala Val Asn Gly Ile Asn Leu Ala Lys Phe Arg His Asp Glu  
 50 55 60

Ile Ile Ser Leu Leu Lys Asn Val Gly Glu Arg Val Val Leu Glu Val  
 65 70 75 80

Glu Tyr Glu

<210> 53

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide



<400> 53

His Val Ala Thr Ala Ser Gly Pro Leu Leu Val Glu Val Ala Lys Thr  
1 5 10 15

Pro Gly Ala Ser Leu Gly Val Ala Leu Thr Thr Ser Met Cys Cys Asn  
20 25 30

Lys Gln Val Ile Val Ile Asp Lys Ile Lys Ser Ala Ser Ile Ala Asp  
35 40 45

Arg Cys Gly Ala Leu His Val Gly Asp His Ile Leu Ser Ile Asp Gly  
50 55 60

Thr Ser Met Glu Tyr Cys Thr Leu Ala Glu Ala Thr Gln Phe Leu Ala  
65 70 75 80

Asn Thr Thr Asp Gln Val Lys Leu Glu Ile Leu Pro His His Gln Thr  
85 90 95

Arg Leu Ala Leu Lys Gly Pro Asn Ser Ser  
100 105

<210> 54

<211> 95

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 54

Ile Met Ser Pro Thr Pro Val Glu Leu His Lys Val Thr Leu Tyr Lys  
1 5 10 15

Asp Ser Asp Met Glu Asp Phe Gly Phe Ser Val Ala Asp Gly Leu Leu  
20 25 30

Glu Lys Gly Val Tyr Val Lys Asn Ile Arg Pro Ala Gly Pro Gly Asp  
35 40 45

Leu Gly Gly Leu Lys Pro Tyr Asp Arg Leu Leu Gln Val Asn His Val  
50 55 60

Arg Thr Arg Asp Phe Asp Cys Cys Leu Val Val Pro Leu Ile Ala Glu  
65 70 75 80

Ser Gly Asn Lys Leu Asp Leu Val Ile Ser Arg Asn Pro Leu Ala

85

90

95

<210> 55  
<211> 90  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 55

Ile Tyr Thr Val Glu Leu Lys Arg Tyr Gly Gly Pro Leu Gly Ile Thr  
1 5 10 15

Ile Ser Gly Thr Glu Glu Pro Phe Asp Pro Ile Ile Ile Ser Ser Leu  
20 25 30

Thr Lys Gly Gly Leu Ala Glu Arg Thr Gly Ala Ile His Ile Gly Asp  
35 40 45

Arg Ile Leu Ala Ile Asn Ser Ser Ser Leu Lys Gly Lys Pro Leu Ser  
50 55 60

Glu Ala Ile His Leu Leu Gln Met Ala Gly Glu Thr Val Thr Leu Lys  
65 70 75 80

Ile Lys Lys Gln Thr Asp Ala Gln Ser Ala  
85 90

<210> 56  
<211> 95  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 56

Ile Met Ser Pro Thr Pro Val Glu Leu His Lys Val Thr Leu Tyr Lys  
1 5 10 15

Asp Ser Asp Met Glu Asp Phe Gly Phe Ser Val Ala Asp Gly Leu Leu  
20 25 30

Glu Lys Gly Val Tyr Val Lys Asn Ile Arg Pro Ala Gly Pro Gly Asp  
35 40 45

Leu Gly Gly Leu Lys Pro Tyr Asp Arg Leu Leu Gln Val Asn His Val  
 50 55 60

Arg Thr Arg Asp Phe Asp Cys Cys Leu Val Val Pro Leu Ile Ala Glu  
 65 70 75 80

Ser Gly Asn Lys Leu Asp Leu Val Ile Ser Arg Asn Pro Leu Ala  
 85 90 95

<210> 57  
 <211> 88  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 57

Ser Arg Gly Cys Glu Thr Arg Glu Leu Ala Leu Pro Arg Asp Gly Gln  
 1 5 10 15

Gly Arg Leu Gly Phe Glu Val Asp Ala Glu Gly Phe Val Thr His Val  
 20 25 30

Glu Arg Phe Thr Phe Ala Glu Thr Ala Gly Leu Arg Pro Gly Ala Arg  
 35 40 45

Leu Leu Arg Val Cys Gly Gln Thr Leu Pro Ser Leu Arg Pro Glu Ala  
 50 55 60

Ala Ala Gln Leu Leu Arg Ser Ala Pro Lys Val Cys Val Thr Val Leu  
 65 70 75 80

Pro Pro Asp Glu Ser Gly Arg Pro  
 85

<210> 58  
 <211> 108  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 58

Cys Ser Val Met Ile Phe Glu Val Val Glu Gln Ala Gly Ala Ile Ile  
 1 5 10 15

Leu Glu Asp Gly Gln Glu Leu Asp Ser Trp Tyr Val Ile Leu Asn Gly

20

25

30

Thr Val Glu Ile Ser His Pro Asp Gly Lys Val Glu Asn Leu Phe Met  
 35 40 45

Gly Asn Ser Phe Gly Ile Thr Pro Thr Leu Asp Lys Gln Tyr Met His  
 50 55 60

Gly Ile Val Arg Thr Lys Val Asp Asp Cys Gln Phe Val Cys Ile Ala  
 65 70 75 80

Gln Gln Asp Tyr Trp Arg Ile Leu Asn His Val Glu Lys Asn Thr His  
 85 90 95

Lys Val Glu Glu Glu Gly Glu Ile Val Met Val His  
 100 105

<210> 59  
 <211> 82  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 59

Pro Arg Glu Thr Val Lys Ile Pro Asp Ser Ala Asp Gly Leu Gly Phe  
 1 5 10 15

Gln Ile Arg Gly Phe Gly Pro Ser Val Val His Ala Val Gly Arg Gly  
 20 25 30

Thr Val Ala Ala Ala Ala Gly Leu His Pro Gly Gln Cys Ile Ile Lys  
 35 40 45

Val Asn Gly Ile Asn Val Ser Lys Glu Thr His Ala Ser Val Ile Ala  
 50 55 60

His Val Thr Ala Cys Arg Lys Tyr Arg Arg Pro Thr Lys Gln Asp Ser  
 65 70 75 80

Ile Gln

<210> 60  
 <211> 89  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide  
 <400> 60

Leu Glu Asn Val Ile Ala Lys Ser Leu Leu Ile Lys Ser Asn Glu Gly  
 1 5 10 15

Ser Tyr Gly Phe Gly Leu Glu Asp Lys Asn Lys Val Pro Ile Ile Lys  
 20 25 30

Leu Val Glu Lys Gly Ser Asn Ala Glu Met Ala Gly Met Glu Val Gly  
 35 40 45

Lys Lys Ile Phe Ala Ile Asn Gly Asp Leu Val Phe Met Arg Pro Phe  
 50 55 60

Asn Glu Val Asp Cys Phe Leu Lys Ser Cys Leu Asn Ser Arg Lys Pro  
 65 70 75 80

Leu Arg Val Leu Val Ser Thr Lys Pro  
 85

<210> 61  
 <211> 100  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide  
 <400> 61

Glu Asp Phe Cys Tyr Val Phe Thr Val Glu Leu Glu Arg Gly Pro Ser  
 1 5 10 15

Gly Leu Gly Met Gly Leu Ile Asp Gly Met His Thr His Leu Gly Ala  
 20 25 30

Pro Gly Leu Tyr Ile Gln Thr Leu Leu Pro Gly Ser Pro Ala Ala Ala  
 35 40 45

Asp Gly Arg Leu Ser Leu Gly Asp Arg Ile Leu Glu Val Asn Gly Ser  
 50 55 60

Ser Leu Leu Gly Leu Gly Tyr Leu Arg Ala Val Asp Leu Ile Arg His  
 65 70 75 80

Gly Gly Lys Lys Met Arg Phe Leu Val Ala Lys Ser Asp Val Glu Thr

Ala Lys Lys Ile  
100

<210> 62  
<211> 91  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 62

Ile Tyr Leu Glu Ala Phe Leu Glu Gly Gly Ala Pro Trp Gly Phe Thr  
1 5 10 15

Leu Lys Gly Gly Leu Glu His Gly Glu Pro Leu Ile Ile Ser Lys Val  
20 25 30

Glu Glu Gly Gly Lys Ala Asp Thr Leu Ser Ser Lys Leu Gln Ala Gly  
35 40 45

Asp Glu Val Val His Ile Asn Glu Val Thr Leu Ser Ser Ser Arg Lys  
50 55 60

Glu Ala Val Ser Leu Val Lys Gly Ser Tyr Lys Thr Leu Arg Leu Val  
65 70 75 80

Val Arg Arg Asp Val Cys Thr Asp Pro Gly His  
85 90

<210> 63  
<211> 100  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 63

Asn Asn Glu Leu Thr Gln Phe Leu Pro Arg Thr Ile Thr Leu Lys Lys  
1 5 10 15

Pro Pro Gly Ala Gln Leu Gly Phe Asn Ile Arg Gly Gly Lys Ala Ser  
20 25 30

Gln Leu Gly Ile Phe Ile Ser Lys Val Ile Pro Asp Ser Asp Ala His  
35 40 45

Arg Ala Gly Leu Gln Glu Gly Asp Gln Val Leu Ala Val Asn Asp Val  
50 55 60

Asp Phe Gln Asp Ile Glu His Ser Lys Ala Val Glu Ile Leu Lys Thr  
65 70 75 80

Ala Arg Glu Ile Ser Met Arg Val Arg Phe Phe Pro Tyr Asn Tyr His  
85 90 95

Arg Gln Lys Glu  
100

<210> 64  
<211> 107  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 64

Phe Leu Thr Glu Phe Gln Asp Lys Gln Ile Lys Asp Trp Lys Lys Arg  
1 5 10 15

Phe Ile Gly Ile Arg Met Arg Thr Ile Thr Pro Ser Leu Val Asp Glu  
20 25 30

Leu Lys Ala Ser Asn Pro Asp Phe Pro Glu Val Ser Ser Gly Ile Tyr  
35 40 45

Val Gln Glu Val Ala Pro Asn Ser Pro Ser Gln Arg Gly Gly Ile Gln  
50 55 60

Asp Gly Asp Ile Ile Val Lys Val Asn Gly Arg Pro Leu Val Asp Ser  
65 70 75 80

Ser Glu Leu Gln Glu Ala Val Leu Thr Glu Ser Pro Leu Leu Leu Glu  
85 90 95

Val Arg Arg Gly Asn Asp Asp Leu Leu Phe Ser  
100 105

<210> 65  
<211> 94  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 65

Asn Lys Lys Tyr Leu Gly Leu Gln Met Leu Ser Leu Thr Val Pro Leu  
1 5 10 15

Ser Glu Glu Leu Lys Met His Tyr Pro Asp Phe Pro Asp Val Ser Ser  
20 25 30

Gly Val Tyr Val Cys Lys Val Val Glu Gly Thr Ala Ala Gln Ser Ser  
35 40 45

Gly Leu Arg Asp His Asp Val Ile Val Asn Ile Asn Gly Lys Pro Ile  
50 55 60

Thr Thr Thr Thr Asp Val Val Lys Ala Leu Asp Ser Asp Ser Leu Ser  
65 70 75 80

Met Ala Val Leu Arg Gly Lys Asp Asn Leu Leu Leu Thr Val  
85 90

<210> 66

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 66

Pro Gly Ser Asp Ser Ser Leu Phe Glu Thr Tyr Asn Val Glu Leu Val  
1 5 10 15

Arg Lys Asp Gly Gln Ser Leu Gly Ile Arg Ile Val Gly Tyr Val Gly  
20 25 30

Thr Ser His Thr Gly Glu Ala Ser Gly Ile Tyr Val Lys Ser Ile Ile  
35 40 45

Pro Gly Ser Ala Ala Tyr His Asn Gly His Ile Gln Val Asn Asp Lys  
50 55 60

Ile Val Ala Val Asp Gly Val Asn Ile Gln Gly Phe Ala Asn His Asp  
65 70 75 80

Val Val Glu Val Leu Arg Asn Ala Gly Gln Val Val His Leu Thr Leu  
85 90 95



Val Arg Arg Lys Thr Ser Ser Ser Thr Ser Arg Ile His Arg Asp  
100 105 110

<210> 67  
<211> 93  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 67

Pro Ala Thr Cys Pro Ile Val Pro Gly Gln Glu Met Ile Ile Glu Ile  
1 5 10 15

Ser Lys Gly Arg Ser Gly Leu Gly Leu Ser Ile Val Gly Gly Lys Asp  
20 25 30

Thr Pro Leu Asn Ala Ile Val Ile His Glu Val Tyr Glu Glu Gly Ala  
35 40 45

Ala Ala Arg Asp Gly Arg Leu Trp Ala Gly Asp Gln Ile Leu Glu Val  
50 55 60

Asn Gly Val Asp Leu Arg Asn Ser Ser His Glu Glu Ala Ile Thr Ala  
65 70 75 80

Leu Arg Gln Thr Pro Gln Lys Val Arg Leu Val Val Tyr  
85 90

<210> 68  
<211> 100  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 68

Leu Pro Glu Thr Val Cys Trp Gly His Val Glu Glu Val Glu Leu Ile  
1 5 10 15

Asn Asp Gly Ser Gly Leu Gly Phe Gly Ile Val Gly Gly Lys Thr Ser  
20 25 30

Gly Val Val Val Arg Thr Ile Val Pro Gly Gly Leu Ala Asp Arg Asp  
35 40 45

Gly Arg Leu Gln Thr Gly Asp His Ile Leu Lys Ile Gly Gly Thr Asn  
50 55 60

Val Gln Gly Met Thr Ser Glu Gln Val Ala Gln Val Leu Arg Asn Cys  
65 70 75 80

Gly Asn Ser Val Arg Met Leu Val Ala Arg Asp Pro Ala Gly Asp Ile  
85 90 95

Gln Ser Pro Ile  
100

<210> 69

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 69

Pro Asn Phe Ser His Trp Gly Pro Pro Arg Ile Val Glu Ile Phe Arg  
1 5 10 15

Glu Pro Asn Val Ser Leu Gly Ile Ser Ile Val Val Gly Gln Thr Val  
20 25 30

Ile Lys Arg Leu Lys Asn Gly Glu Glu Leu Lys Gly Ile Phe Ile Lys  
35 40 45

Gln Val Leu Glu Asp Ser Pro Ala Gly Lys Thr Asn Ala Leu Lys Thr  
50 55 60

Gly Asp Lys Ile Leu Glu Val Ser Gly Val Asp Leu Gln Asn Ala Ser  
65 70 75 80

His Ser Glu Ala Val Glu Ala Ile Lys Asn Ala Gly Asn Pro Val Val  
85 90 95

Phe Ile Val Gln Ser Leu Ser Ser Thr Pro Arg Val Ile Pro Asn Val  
100 105 110

His Asn Lys Ala Asn Ser Ser  
115

<210> 70

<211> 99  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 70

Pro Gly Glu Leu His Ile Ile Glu Leu Glu Lys Asp Lys Asn Gly Leu  
1 5 10 15

Gly Leu Ser Leu Ala Gly Asn Lys Asp Arg Ser Arg Met Ser Ile Phe  
20 25 30

Val Val Gly Ile Asn Pro Glu Gly Pro Ala Ala Ala Asp Gly Arg Met  
35 40 45

Arg Ile Gly Asp Glu Leu Leu Glu Ile Asn Asn Gln Ile Leu Tyr Gly  
50 55 60

Arg Ser His Gln Asn Ala Ser Ala Ile Ile Lys Thr Ala Pro Ser Lys  
65 70 75 80

Val Lys Leu Val Phe Ile Arg Asn Glu Asp Ala Val Asn Gln Met Ala  
85 90 95

Asn Ser Ser

<210> 71  
<211> 102  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 71

Leu Ser Ser Pro Glu Val Lys Ile Val Glu Leu Val Lys Asp Cys Lys  
1 5 10 15

Gly Leu Gly Phe Ser Ile Leu Asp Tyr Gln Asp Pro Leu Asp Pro Thr  
20 25 30

Arg Ser Val Ile Val Ile Arg Ser Leu Val Ala Asp Gly Val Ala Glu  
35 40 45

Arg Ser Gly Gly Leu Leu Pro Gly Asp Arg Leu Val Ser Val Asn Glu

50

55

60

Tyr Cys Leu Asp Asn Thr Ser Leu Ala Glu Ala Val Glu Ile Leu Lys  
65 70 75 80

Ala Val Pro Pro Gly Leu Val His Leu Gly Ile Cys Lys Pro Leu Val  
85 90 95

Glu Phe Ile Val Thr Asp  
100

|       |                     |
|-------|---------------------|
| <210> | 72                  |
| <211> | 104                 |
| <212> | PRT                 |
| <213> | Artificial Sequence |

<220>  
<223> Synthetic peptide

<400> 72

Ile Trp Gln Ile Glu Tyr Ile Asp Ile Glu Arg Pro Ser Thr Gly Gly  
1 5 10 15

Leu Gly Phe Ser Val Val Ala Leu Arg Ser Gln Asn Leu Gly Lys Val  
20 25 30

Asp Ile Phe Val Lys Asp Val Gln Pro Gly Ser Val Ala Asp Arg Asp  
35 40 45

Gln Arg Leu Lys Glu Asn Asp Gln Ile Leu Ala Ile Asn His Thr Pro  
50 55 60

Leu Asp Gln Asn Ile Ser His Gln Gln Ala Ile Ala Leu Leu Gln Gln  
65 70 75 80

Thr Thr Gly Ser Leu Arg Leu Ile Val Ala Arg Glu Pro Val His Thr  
85 90 95

Lys Ser Ser Thr Ser Ser Ser Glu  
100

|       |                     |
|-------|---------------------|
| <210> | 73                  |
| <211> | 96                  |
| <212> | PRT                 |
| <213> | Artificial Sequence |

<220>  
<223> Synthetic peptide

<400> 73

Asn Ser Asp Asp Ala Glu Leu Gln Lys Tyr Ser Lys Leu Leu Pro Ile  
1 5 10 15

His Thr Leu Arg Leu Gly Val Glu Val Asp Ser Phe Asp Gly His His  
20 25 30

Tyr Ile Ser Ser Ile Val Ser Gly Gly Pro Val Asp Thr Leu Gly Leu  
35 40 45

Leu Gln Pro Glu Asp Glu Leu Leu Glu Val Asn Gly Met Gln Leu Tyr  
50 55 60

Gly Lys Ser Arg Arg Glu Ala Val Ser Phe Leu Lys Glu Val Pro Pro  
65 70 75 80

Pro Phe Thr Leu Val Cys Cys Arg Arg Leu Phe Asp Asp Glu Ala Ser  
85 90 95

<210> 74

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 74

His Leu Arg Leu Leu Asn Ile Ala Cys Ala Ala Lys Ala Lys Arg Arg  
1 5 10 15

Leu Met Thr Leu Thr Lys Pro Ser Arg Glu Ala Pro Leu Pro Phe Ile  
20 25 30

Leu Leu Gly Gly Ser Glu Lys Gly Phe Gly Ile Phe Val Asp Ser Val  
35 40 45

Asp Ser Gly Ser Lys Ala Thr Glu Ala Gly Leu Lys Arg Gly Asp Gln  
50 55 60

Ile Leu Glu Val Asn Gly Gln Asn Phe Glu Asn Ile Gln Leu Ser Lys  
65 70 75 80

Ala Met Glu Ile Leu Arg Asn Asn Thr His Leu Ser Ile Thr Val Lys  
85 90 95

Thr Asn Leu Phe Val Phe Lys Glu Leu Leu Thr Arg Leu Ser Glu Glu

100

105

110

Lys Arg Asn Gly Ala Pro  
115

<210> 75  
<211> 88  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 75

Ile Pro Pro Ala Pro Arg Lys Val Glu Met Arg Arg Asp Pro Val Leu  
1 5 10 15

Gly Phe Gly Phe Val Ala Gly Ser Glu Lys Pro Val Val Val Arg Ser  
20 25 30

Val Thr Pro Gly Gly Pro Ser Glu Gly Lys Leu Ile Pro Gly Asp Gln  
35 40 45

Ile Val Met Ile Asn Asp Glu Pro Val Ser Ala Ala Pro Arg Glu Arg  
50 55 60

Val Ile Asp Leu Val Arg Ser Cys Lys Glu Ser Ile Leu Leu Thr Val  
65 70 75 80

Ile Gln Pro Tyr Pro Ser Pro Lys  
85

<210> 76  
<211> 101  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 76

Leu Asn Lys Arg Thr Thr Met Pro Lys Asp Ser Gly Ala Leu Leu Gly  
1 5 10 15

Leu Lys Val Val Gly Gly Lys Met Thr Asp Leu Gly Arg Leu Gly Ala  
20 25 30

Phe Ile Thr Lys Val Lys Lys Gly Ser Leu Ala Asp Val Val Gly His  
35 40 45

Leu Arg Ala Gly Asp Glu Val Leu Glu Trp Asn Gly Lys Pro Leu Pro  
50 55 60

Gly Ala Thr Asn Glu Glu Val Tyr Asn Ile Ile Leu Glu Ser Lys Ser  
65 70 75 80

Glu Pro Gln Val Glu Ile Ile Val Ser Arg Pro Ile Gly Asp Ile Pro  
85 90 95

Arg Ile His Arg Asp  
100

<210> 77  
<211> 77  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 77

Arg Cys Val Ile Ile Gln Lys Asp Gln His Gly Phe Gly Phe Thr Val  
1 5 10 15

Ser Gly Asp Arg Ile Val Leu Val Gln Ser Val Arg Pro Gly Gly Ala  
20 25 30

Ala Met Lys Ala Gly Val Lys Glu Gly Asp Arg Ile Ile Lys Val Asn  
35 40 45

Gly Thr Met Val Thr Asn Ser Ser His Leu Glu Val Val Lys Leu Ile  
50 55 60

Lys Ser Gly Ala Tyr Val Ala Leu Thr Leu Leu Gly Ser  
65 70 75

<210> 78  
<211> 87  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 78

Ile Leu Val Gln Arg Cys Val Ile Ile Gln Lys Asp Asp Asn Gly Phe  
1 5 10 15

Gly Leu Thr Val Ser Gly Asp Asn Pro Val Phe Val Gln Ser Val Lys  
20 25 30

Glu Asp Gly Ala Ala Met Arg Ala Gly Val Gln Thr Gly Asp Arg Ile  
35 40 45

Ile Lys Val Asn Gly Thr Leu Val Thr His Ser Asn His Leu Glu Val  
50 55 60

Val Lys Leu Ile Lys Ser Gly Ser Tyr Val Ala Leu Thr Val Gln Gly  
65 70 75 80

Arg Pro Pro Gly Asn Ser Ser  
85

<210> 79  
<211> 78  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 79

Ser Val Glu Met Thr Leu Arg Arg Asn Gly Leu Gly Gln Leu Gly Phe  
1 5 10 15

His Val Asn Tyr Glu Gly Ile Val Ala Asp Val Glu Pro Tyr Gly Tyr  
20 25 30

Ala Trp Gln Ala Gly Leu Arg Gln Gly Ser Arg Leu Val Glu Ile Cys  
35 40 45

Lys Val Ala Val Ala Thr Leu Ser His Glu Gln Met Ile Asp Leu Leu  
50 55 60

Arg Thr Ser Val Thr Val Lys Val Val Ile Ile Pro Pro His  
65 70 75

<210> 80  
<211> 96  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 80



Leu Lys Val Met Thr Ser Gly Trp Glu Thr Val Asp Met Thr Leu Arg  
 1 5 10 15

Arg Asn Gly Leu Gly Gln Leu Gly Phe His Val Lys Tyr Asp Gly Thr  
 20 25 30

Val Ala Glu Val Glu Asp Tyr Gly Phe Ala Trp Gln Ala Gly Leu Arg  
 35 40 45

Gln Gly Ser Arg Leu Val Glu Ile Cys Lys Val Ala Val Val Thr Leu  
 50 55 60

Thr His Asp Gln Met Ile Asp Leu Leu Arg Thr Ser Val Thr Val Lys  
 65 70 75 80

Val Val Ile Ile Pro Pro Phe Glu Asp Gly Thr Pro Arg Arg Gly Trp  
 85 90 95

<210> 81  
 <211> 105  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 81

His Tyr Ile Phe Pro His Ala Arg Ile Lys Ile Thr Arg Asp Ser Lys  
 1 5 10 15

Asp His Thr Val Ser Gly Asn Gly Leu Gly Ile Arg Ile Val Gly Gly  
 20 25 30

Lys Glu Ile Pro Gly His Ser Gly Glu Ile Gly Ala Tyr Ile Ala Lys  
 35 40 45

Ile Leu Pro Gly Gly Ser Ala Glu Gln Thr Gly Lys Leu Met Glu Gly  
 50 55 60

Met Gln Val Leu Glu Trp Asn Gly Ile Pro Leu Thr Ser Lys Thr Tyr  
 65 70 75 80

Glu Glu Val Gln Ser Ile Ile Ser Gln Gln Ser Gly Glu Ala Glu Ile  
 85 90 95

Cys Val Arg Leu Asp Leu Asn Met Leu  
 100 105

<210> 82  
 <211> 86  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 82

Ser Tyr Ser Val Thr Leu Thr Gly Pro Gly Pro Trp Gly Phe Arg Leu  
 1 5 10 15

Gln Gly Gly Lys Asp Phe Asn Met Pro Leu Thr Ile Ser Arg Ile Thr  
 20 25 30

Pro Gly Ser Lys Ala Ala Gln Ser Gln Leu Ser Gln Gly Asp Leu Val  
 35 40 45

Val Ala Ile Asp Gly Val Asn Thr Asp Thr Met Thr His Leu Glu Ala  
 50 55 60

Gln Asn Lys Ile Lys Ser Ala Ser Tyr Asn Leu Ser Leu Thr Leu Gln  
 65 70 75 80

Lys Ser Lys Asn Ser Ser  
 85

<210> 83  
 <211> 94  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 83

Phe Ser Asp Met Arg Ile Ser Ile Asn Gln Thr Pro Gly Lys Ser Leu  
 1 5 10 15

Asp Phe Gly Phe Thr Ile Lys Trp Asp Ile Pro Gly Ile Phe Val Ala  
 20 25 30

Ser Val Glu Ala Gly Ser Pro Ala Glu Phe Ser Gln Leu Gln Val Asp  
 35 40 45

Asp Glu Ile Ile Ala Ile Asn Asn Thr Lys Phe Ser Tyr Asn Asp Ser  
 50 55 60

Lys Glu Trp Glu Glu Ala Met Ala Lys Ala Gln Glu Thr Gly His Leu  
65 70 75 80

Val Met Asp Val Arg Arg Tyr Gly Lys Ala Gly Ser Pro Glu  
85 90

<210> 84  
<211> 98  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 84

Gln Ser Ala His Leu Glu Val Ile Gln Leu Ala Asn Ile Lys Pro Ser  
1 5 10 15

Glu Gly Leu Gly Met Tyr Ile Lys Ser Thr Tyr Asp Gly Leu His Val  
20 25 30

Ile Thr Gly Thr Thr Glu Asn Ser Pro Ala Asp Arg Cys Lys Lys Ile  
35 40 45

His Ala Gly Asp Glu Val Ile Gln Val Asn His Gln Thr Val Val Gly  
50 55 60

Trp Gln Leu Lys Asn Leu Val Asn Ala Leu Arg Glu Asp Pro Ser Gly  
65 70 75 80

Val Ile Leu Thr Leu Lys Lys Arg Pro Gln Ser Met Leu Thr Ser Ala  
85 90 95

Pro Ala

<210> 85  
<211> 100  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 85

Ile Leu Thr Gln Thr Leu Ile Pro Val Arg His Thr Val Lys Ile Asp  
1 5 10 15

Lys Asp Thr Leu Leu Gln Asp Tyr Gly Phe His Ile Ser Glu Ser Leu  
20 25 30

Pro Leu Thr Val Val Ala Val Thr Ala Gly Gly Ser Ala His Gly Lys  
35 40 45

Leu Phe Pro Gly Asp Gln Ile Leu Gln Met Asn Asn Glu Pro Ala Glu  
50 55 60

Asp Leu Ser Trp Glu Arg Ala Val Asp Ile Leu Arg Glu Ala Glu Asp  
65 70 75 80

Ser Leu Ser Ile Thr Val Val Arg Cys Thr Ser Gly Val Pro Lys Ser  
85 90 95

Ser Asn Ser Ser  
100

<210> 86  
<211> 91  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 86

Arg Ser Phe Gln Tyr Val Pro Val Gln Leu Gln Gly Gly Ala Pro Trp  
1 5 10 15

Gly Phe Thr Leu Lys Gly Gly Leu Glu His Cys Glu Pro Leu Thr Val  
20 25 30

Ser Lys Ile Glu Asp Gly Gly Lys Ala Ala Leu Ser Gln Lys Met Arg  
35 40 45

Thr Gly Asp Glu Leu Val Asn Ile Asn Gly Thr Pro Leu Tyr Gly Ser  
50 55 60

Arg Gln Glu Ala Leu Ile Leu Ile Lys Gly Ser Phe Arg Ile Leu Lys  
65 70 75 80

Leu Ile Val Arg Arg Arg Asn Ala Pro Val Ser  
85 90

<210> 87  
<211> 103  
<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 87

Ile Leu Glu Lys Leu Glu Leu Phe Pro Val Glu Leu Glu Lys Asp Glu  
1 5 10 15

Asp Gly Leu Gly Ile Ser Ile Ile Gly Met Gly Val Gly Ala Asp Ala  
20 25 30

Gly Leu Glu Lys Leu Gly Ile Phe Val Lys Thr Val Thr Glu Gly Gly  
35 40 45

Ala Ala Gln Arg Asp Gly Arg Ile Gln Val Asn Asp Gln Ile Val Glu  
50 55 60

Val Asp Gly Ile Ser Leu Val Gly Val Thr Gln Asn Phe Ala Ala Thr  
65 70 75 80

Val Leu Arg Asn Thr Lys Gly Asn Val Arg Phe Val Ile Gly Arg Glu  
85 90 95

Lys Pro Gly Gln Val Ser Glu  
100

<210> 88

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 88

Lys Asp Val Asn Val Tyr Val Asn Pro Lys Lys Leu Thr Val Ile Lys  
1 5 10 15

Ala Lys Glu Gln Leu Lys Leu Leu Glu Val Leu Val Gly Ile Ile His  
20 25 30

Gln Thr Lys Trp Ser Trp Arg Arg Thr Gly Lys Gln Gly Asp Gly Glu  
35 40 45

Arg Leu Val Val His Gly Leu Leu Pro Gly Gly Ser Ala Met Lys Ser  
50 55 60

Gly Gln Val Leu Ile Gly Asp Val Leu Val Ala Val Asn Asp Val Asp  
65 70 75 80

Val Thr Thr Glu Asn Ile Glu Arg Val Leu Ser Cys Ile Pro Gly Pro  
85 90 95

Met Gln Val Lys Leu Thr Phe Glu Asn Ala Tyr Asp Val Lys Arg Glu  
100 105 110

Thr

<210> 89  
<211> 90  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 89

Thr Arg Gly Cys Glu Thr Val Glu Met Thr Leu Arg Arg Asn Gly Leu  
1 5 10 15

Gly Gln Leu Gly Phe His Val Asn Phe Glu Gly Ile Val Ala Asp Val  
20 25 30

Glu Pro Phe Gly Phe Ala Trp Lys Ala Gly Leu Arg Gln Gly Ser Arg  
35 40 45

Leu Val Glu Ile Cys Lys Val Ala Val Ala Thr Leu Thr His Glu Gln  
50 55 60

Met Ile Asp Leu Leu Arg Thr Ser Val Thr Val Lys Val Val Ile Ile  
65 70 75 80

Gln Pro His Asp Asp Gly Ser Pro Arg Arg  
85 90

<210> 90  
<211> 96  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 90

Val Glu Asn Ile Leu Ala Lys Arg Leu Leu Ile Leu Pro Gln Glu Glu

|   |   |    |    |
|---|---|----|----|
| 1 | 5 | 10 | 15 |
|---|---|----|----|

Asp Tyr Gly Phe Asp Ile Glu Glu Lys Asn Lys Ala Val Val Val Lys  
                   20                                  25                                  30

Ser Val Gln Arg Gly Ser Leu Ala Glu Val Ala Gly Leu Gln Val Gly  
                   35                                  40                                  45

Arg Lys Ile Tyr Ser Ile Asn Glu Asp Leu Val Phe Leu Arg Pro Phe  
           50                                  55                                  60

Ser Glu Val Glu Ser Ile Leu Asn Gln Ser Phe Cys Ser Arg Arg Pro  
   65                                  70                                  75                                  80

Leu Arg Leu Leu Val Ala Thr Lys Ala Lys Glu Ile Ile Lys Ile Pro  
                                   85                                  90                                  95

<210> 91  
 <211> 103  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 91

Pro Asp Ser Ala Gly Pro Gly Glu Val Arg Leu Val Ser Leu Arg Arg  
 1                  5                                  10                                  15

Ala Lys Ala His Glu Gly Leu Gly Phe Ser Ile Arg Gly Gly Ser Glu  
                   20                                  25                                  30

His Gly Val Gly Ile Tyr Val Ser Leu Val Glu Pro Gly Ser Leu Ala  
           35                                  40                                  45

Glu Lys Glu Gly Leu Arg Val Gly Asp Gln Ile Leu Arg Val Asn Asp  
   50                                  55                                  60

Lys Ser Leu Ala Arg Val Thr His Ala Glu Ala Val Lys Ala Leu Lys  
 65                                  70                                  75                                  80

Gly Ser Lys Lys Leu Val Leu Ser Val Tyr Ser Ala Gly Arg Ile Pro  
                   85                                  90                                  95

Gly Gly Tyr Val Thr Asn His  
                   100

<210> 92  
 <211> 100  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 92

Leu Gln Gly Gly Asp Glu Lys Lys Val Asn Leu Val Leu Gly Asp Gly  
 1 5 10 15

Arg Ser Leu Gly Leu Thr Ile Arg Gly Gly Ala Glu Tyr Gly Leu Gly  
 20 25 30

Ile Tyr Ile Thr Gly Val Asp Pro Gly Ser Glu Ala Glu Gly Ser Gly  
 35 40 45

Leu Lys Val Gly Asp Gln Ile Leu Glu Val Asn Gly Arg Ser Phe Leu  
 50 55 60

Asn Ile Leu His Asp Glu Ala Val Arg Leu Leu Lys Ser Ser Arg His  
 65 70 75 80

Leu Ile Leu Thr Val Lys Asp Val Gly Arg Leu Pro His Ala Arg Thr  
 85 90 95

Thr Val Asp Glu  
 100

<210> 93  
 <211> 98  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 93

Leu Arg Arg Ala Glu Leu Val Glu Ile Ile Val Glu Thr Glu Ala Gln  
 1 5 10 15

Thr Gly Val Ser Gly Ile Asn Val Ala Gly Gly Gly Lys Glu Gly Ile  
 20 25 30

Phe Val Arg Glu Leu Arg Glu Asp Ser Pro Ala Ala Arg Ser Leu Ser  
 35 40 45

Leu Gln Glu Gly Asp Gln Leu Leu Ser Ala Arg Val Phe Phe Glu Asn



50

55

60

Phe Lys Tyr Glu Asp Ala Leu Arg Leu Leu Gln Cys Ala Glu Pro Tyr  
 65 70 75 80

Lys Val Ser Phe Cys Leu Lys Arg Thr Val Pro Thr Gly Asp Leu Ala  
 85 90 95

Leu Arg

<210> 94  
 <211> 94  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 94

Ile Gln Thr Thr Gly Ala Val Ser Tyr Thr Val Glu Leu Lys Arg Tyr  
 1 5 10 15

Gly Gly Pro Leu Gly Ile Thr Ile Ser Gly Thr Glu Glu Pro Phe Asp  
 20 25 30

Pro Ile Val Ile Ser Gly Leu Thr Lys Arg Gly Leu Ala Glu Arg Thr  
 35 40 45

Gly Ala Ile His Val Gly Asp Arg Ile Leu Ala Ile Asn Asn Val Ser  
 50 55 60

Leu Lys Gly Arg Pro Leu Ser Glu Ala Ile His Leu Leu Gln Val Ala  
 65 70 75 80

Gly Glu Thr Val Thr Leu Lys Ile Lys Lys Gln Leu Asp Arg  
 85 90

<210> 95  
 <211> 105  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 95

Ile Leu Glu Met Glu Glu Leu Leu Leu Pro Thr Pro Leu Glu Met His  
 1 5 10 15

Lys Val Thr Leu His Lys Asp Pro Met Arg His Asp Phe Gly Phe Ser  
20 25 30

Val Ser Asp Gly Leu Leu Glu Lys Gly Val Tyr Val His Thr Val Arg  
35 40 45

Pro Asp Gly Pro Ala His Arg Gly Gly Leu Gln Pro Phe Asp Arg Val  
50 55 60

Leu Gln Val Asn His Val Arg Thr Arg Asp Phe Asp Cys Cys Leu Ala  
65 70 75 80

Val Pro Leu Leu Ala Glu Ala Gly Asp Val Leu Glu Leu Ile Ile Ser  
85 90 95

Arg Lys Pro His Thr Ala His Ser Ser  
100 105

<210> 96  
<211> 102  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 96

Ile His Thr Val Ala Asn Ala Ser Gly Pro Leu Met Val Glu Ile Val  
1 5 10 15

Lys Thr Pro Gly Ser Ala Leu Gly Ile Ser Leu Thr Thr Thr Ser Leu  
20 25 30

Arg Asn Lys Ser Val Ile Thr Ile Asp Arg Ile Lys Pro Ala Ser Val  
35 40 45

Val Asp Arg Ser Gly Ala Leu His Pro Gly Asp His Ile Leu Ser Ile  
50 55 60

Asp Gly Thr Ser Met Glu His Cys Ser Leu Leu Glu Ala Thr Lys Leu  
65 70 75 80

Leu Ala Ser Ile Ser Glu Lys Val Arg Leu Glu Ile Leu Pro Val Pro  
85 90 95

Gln Ser Gln Arg Pro Leu

<210> 97  
 <211> 84  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 97

Ile Thr Val Val Glu Leu Ile Lys Lys Glu Gly Ser Thr Leu Gly Leu  
 1 5 10 15

Thr Ile Ser Gly Gly Thr Asp Lys Asp Gly Lys Pro Arg Val Ser Asn  
 20 25 30

Leu Arg Pro Gly Gly Leu Ala Ala Arg Ser Asp Leu Leu Asn Ile Gly  
 35 40 45

Asp Tyr Ile Arg Ser Val Asn Gly Ile His Leu Thr Arg Leu Arg His  
 50 55 60

Asp Glu Ile Ile Thr Leu Leu Lys Asn Val Gly Glu Arg Val Val Leu  
 65 70 75 80

Glu Val Glu Tyr

<210> 98  
 <211> 103  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 98

Ile Gln Ile Val His Thr Glu Thr Thr Glu Val Val Leu Cys Gly Asp  
 1 5 10 15

Pro Leu Ser Gly Phe Gly Leu Gln Leu Gln Gly Gly Ile Phe Ala Thr  
 20 25 30

Glu Thr Leu Ser Ser Pro Pro Leu Val Cys Phe Ile Glu Pro Asp Ser  
 35 40 45

Pro Ala Glu Arg Cys Gly Leu Leu Gln Val Gly Asp Arg Val Leu Ser  
 50 55 60

Ile Asn Gly Ile Ala Thr Glu Asp Gly Thr Met Glu Glu Ala Asn Gln  
65 70 75 80

Leu Leu Arg Asp Ala Ala Leu Ala His Lys Val Val Leu Glu Val Glu  
85 90 95

Phe Asp Val Ala Glu Ser Val  
100

<210> 99  
<211> 92  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 99

Ile Leu Asp Val Ser Leu Tyr Lys Glu Gly Asn Ser Phe Gly Phe Val  
1 5 10 15

Leu Arg Gly Gly Ala His Glu Asp Gly His Lys Ser Arg Pro Leu Val  
20 25 30

Leu Thr Tyr Val Arg Pro Gly Gly Pro Ala Asp Arg Glu Gly Ser Leu  
35 40 45

Lys Val Gly Asp Arg Leu Leu Ser Val Asp Gly Ile Pro Leu His Gly  
50 55 60

Ala Ser His Ala Thr Ala Leu Ala Thr Leu Arg Gln Cys Ser His Glu  
65 70 75 80

Ala Leu Phe Gln Val Glu Tyr Asp Val Ala Thr Pro  
85 90

<210> 100  
<211> 102  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 100

Gln Phe Asp Val Ala Glu Ser Val Ile Pro Ser Ser Gly Thr Phe His  
1 5 10 15

Val Lys Leu Pro Lys Lys Arg Ser Val Glu Leu Gly Ile Thr Ile Ser  
20 25 30

Ser Ala Ser Arg Lys Arg Gly Glu Pro Leu Ile Ile Ser Asp Ile Lys  
35 40 45

Lys Gly Ser Val Ala His Arg Thr Gly Thr Leu Glu Pro Gly Asp Lys  
50 55 60

Leu Leu Ala Ile Asp Asn Ile Arg Leu Asp Asn Cys Pro Met Glu Asp  
65 70 75 80

Ala Val Gln Ile Leu Arg Gln Cys Glu Asp Leu Val Lys Leu Lys Ile  
85 90 95

Arg Lys Asp Glu Asp Asn  
100

<210> 101  
<211> 91  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 101

Met Ala Leu Thr Val Asp Val Ala Gly Pro Ala Pro Trp Gly Phe Arg  
1 5 10 15

Ile Thr Gly Gly Arg Asp Phe His Thr Pro Ile Met Val Thr Lys Val  
20 25 30

Ala Glu Arg Gly Lys Ala Lys Asp Ala Asp Leu Arg Pro Gly Asp Ile  
35 40 45

Ile Val Ala Ile Asn Gly Glu Ser Ala Glu Gly Met Leu His Ala Glu  
50 55 60

Ala Gln Ser Lys Ile Arg Gln Ser Pro Ser Pro Leu Arg Leu Gln Leu  
65 70 75 80

Asp Arg Ser Gln Ala Thr Ser Pro Gly Gln Thr  
85 90

<210> 102  
<211> 84

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 102

Ser Asn Tyr Ser Val Ser Leu Val Gly Pro Ala Pro Trp Gly Phe Arg  
1 5 10 15

Leu Gln Gly Gly Lys Asp Phe Asn Met Pro Leu Thr Ile Ser Ser Leu  
20 25 30

Lys Asp Gly Gly Lys Ala Ala Gln Ala Asn Val Arg Ile Gly Asp Val  
35 40 45

Val Leu Ser Ile Asp Gly Ile Asn Ala Gln Gly Met Thr His Leu Glu  
50 55 60

Ala Gln Asn Lys Ile Lys Gly Cys Thr Gly Ser Leu Asn Met Thr Leu  
65 70 75 80

Gln Arg Ala Ser

<210> 103  
<211> 133  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 103

Thr Leu Val Glu His Ser Lys Leu Tyr Cys Gly His Cys Tyr Tyr Gln  
1 5 10 15

Thr Val Val Thr Pro Val Ile Glu Gln Ile Leu Pro Asp Ser Pro Gly  
20 25 30

Ser His Leu Pro His Thr Val Thr Leu Val Ser Ile Pro Ala Ser Ser  
35 40 45

His Gly Lys Arg Gly Leu Ser Val Ser Ile Asp Pro Pro His Gly Pro  
50 55 60

Pro Gly Cys Gly Thr Glu His Ser His Thr Val Arg Val Gln Gly Val  
65 70 75 80

Asp Pro Gly Cys Met Ser Pro Asp Val Lys Asn Ser Ile His Val Gly  
85 90 95

Asp Arg Ile Leu Glu Ile Asn Gly Thr Pro Ile Arg Asn Val Pro Leu  
100 105 110

Asp Glu Ile Asp Leu Leu Ile Gln Glu Thr Ser Arg Leu Leu Gln Leu  
115 120 125

Thr Leu Glu His Asp  
130

<210> 104  
<211> 92  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 104

Pro Tyr Ser Val Thr Leu Ile Ser Met Pro Ala Thr Thr Glu Gly Arg  
1 5 10 15

Arg Gly Phe Ser Val Ser Val Glu Ser Ala Cys Ser Asn Tyr Ala Thr  
20 25 30

Thr Val Gln Val Lys Glu Val Asn Arg Met His Ile Ser Pro Asn Asn  
35 40 45

Arg Asn Ala Ile His Pro Gly Asp Arg Ile Leu Glu Ile Asn Gly Thr  
50 55 60

Pro Val Arg Thr Leu Arg Val Glu Glu Val Glu Asp Ala Ile Ser Gln  
65 70 75 80

Thr Ser Gln Thr Leu Gln Leu Leu Ile Glu His Asp  
85 90

<210> 105  
<211> 82  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 105

Ile His Ser Val Thr Leu Arg Gly Pro Ser Pro Trp Gly Phe Arg Leu  
1 5 10 15

Val Gly Arg Asp Phe Ser Ala Pro Leu Thr Ile Ser Arg Val His Ala  
20 25 30

Gly Ser Lys Ala Ser Leu Ala Ala Leu Cys Pro Gly Asp Leu Ile Gln  
35 40 45

Ala Ile Asn Gly Glu Ser Thr Glu Leu Met Thr His Leu Glu Ala Gln  
50 55 60

Asn Arg Ile Lys Gly Cys His Asp His Leu Thr Leu Ser Val Ser Arg  
65 70 75 80

Pro Glu

<210> 106

<211> 74

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 106

Val Cys Tyr Arg Thr Asp Asp Glu Glu Asp Leu Gly Ile Tyr Val Gly  
1 5 10 15

Glu Val Asn Pro Asn Ser Ile Ala Ala Lys Asp Gly Arg Ile Arg Glu  
20 25 30

Gly Asp Arg Ile Ile Gln Ile Asn Gly Val Asp Val Gln Asn Arg Glu  
35 40 45

Glu Ala Val Ala Ile Leu Ser Gln Glu Glu Asn Thr Asn Ile Ser Leu  
50 55 60

Leu Val Ala Arg Pro Glu Ser Gln Leu Ala  
65 70

<210> 107

<211> 93

<212> PRT

<213> Artificial Sequence



<220>

<223> Synthetic peptide

<400> 107

Ile Pro Ala Thr Gln Pro Glu Leu Ile Thr Val His Ile Val Lys Gly  
1 5 10 15

Pro Met Gly Phe Gly Phe Thr Ile Ala Asp Ser Pro Gly Gly Gly Gly  
20 25 30

Gln Arg Val Lys Gln Ile Val Asp Ser Pro Arg Cys Arg Gly Leu Lys  
35 40 45

Glu Gly Asp Leu Ile Val Glu Val Asn Lys Lys Asn Val Gln Ala Leu  
50 55 60

Thr His Asn Gln Val Val Asp Met Leu Val Glu Cys Pro Lys Gly Ser  
65 70 75 80

Glu Val Thr Leu Leu Val Gln Arg Gly Gly Asn Ser Ser  
85 90

<210> 108

<211> 103

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 108

Ile Pro Asp Tyr Gln Glu Gln Asp Ile Phe Leu Trp Arg Lys Glu Thr  
1 5 10 15

Gly Phe Gly Phe Arg Ile Leu Gly Gly Asn Glu Pro Gly Glu Pro Ile  
20 25 30

Tyr Ile Gly His Ile Val Pro Leu Gly Ala Ala Asp Thr Asp Gly Arg  
35 40 45

Leu Arg Ser Gly Asp Glu Leu Ile Cys Val Asp Gly Thr Pro Val Ile  
50 55 60

Gly Lys Ser His Gln Leu Val Val Gln Leu Met Gln Gln Ala Ala Lys  
65 70 75 80

Gln Gly His Val Asn Leu Thr Val Arg Arg Lys Val Val Phe Ala Val  
85 90 95

Pro Lys Thr Glu Asn Ser Ser  
100

<210> 109  
<211> 120  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 109

Ile Pro Gly Val Val Ser Thr Val Val Gln Pro Tyr Asp Val Glu Ile  
1 5 10 15

Arg Arg Gly Glu Asn Glu Gly Phe Gly Phe Val Ile Val Ser Ser Val  
20 25 30

Ser Arg Pro Glu Ala Gly Thr Thr Phe Ala Gly Asn Ala Cys Val Ala  
35 40 45

Met Pro His Lys Ile Gly Arg Ile Ile Glu Gly Ser Pro Ala Asp Arg  
50 55 60

Cys Gly Lys Leu Lys Val Gly Asp Arg Ile Leu Ala Val Asn Gly Cys  
65 70 75 80

Ser Ile Thr Asn Lys Ser His Ser Asp Ile Val Asn Leu Ile Lys Glu  
85 90 95

Ala Gly Asn Thr Val Thr Leu Arg Ile Ile Pro Gly Asp Glu Ser Ser  
100 105 110

Asn Ala Glu Phe Ile Val Thr Asp  
115 120

<210> 110  
<211> 107  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 110

Ile Pro Ser Glu Leu Lys Gly Lys Phe Ile His Thr Lys Leu Arg Lys

1                      5                      10                      15  
 Ser Ser Arg Gly Phe Gly Phe Thr Val Val Gly Gly Asp Glu Pro Asp  
                     20                      25                      30  
 Glu Phe Leu Gln Ile Lys Ser Leu Val Leu Asp Gly Pro Ala Ala Leu  
                     35                      40                      45  
 Asp Gly Lys Met Glu Thr Gly Asp Val Ile Val Ser Val Asn Asp Thr  
                     50                      55                      60  
 Cys Val Leu Gly His Thr His Ala Gln Val Val Lys Ile Phe Gln Ser  
                     65                      70                      75                      80  
 Ile Pro Ile Gly Ala Ser Val Asp Leu Glu Leu Cys Arg Gly Tyr Pro  
                     85                      90                      95  
 Leu Pro Phe Asp Pro Asp Gly Ile His Arg Asp  
                     100                      105  
  
 <210> 111  
 <211> 91  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic peptide  
  
 <400> 111  
 Gln Ala Thr Gln Glu Gln Asp Phe Tyr Thr Val Glu Leu Glu Arg Gly  
 1                      5                      10                      15  
 Ala Lys Gly Phe Gly Phe Ser Leu Arg Gly Gly Arg Glu Tyr Asn Met  
                     20                      25                      30  
 Asp Leu Tyr Val Leu Arg Leu Ala Glu Asp Gly Pro Ala Glu Arg Cys  
                     35                      40                      45  
 Gly Lys Met Arg Ile Gly Asp Glu Ile Leu Glu Ile Asn Gly Glu Thr  
                     50                      55                      60  
 Thr Lys Asn Met Lys His Ser Arg Ala Ile Glu Leu Ile Lys Asn Gly  
                     65                      70                      75                      80  
 Gly Arg Arg Val Arg Leu Phe Leu Lys Arg Gly  
                     85                      90

<210> 112  
 <211> 104  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 112

Arg Glu Lys Pro Leu Phe Thr Arg Asp Ala Ser Gln Leu Lys Gly Thr  
 1 5 10 15

Phe Leu Ser Thr Thr Leu Lys Lys Ser Asn Met Gly Phe Gly Phe Thr  
 20 25 30

Ile Ile Gly Gly Asp Glu Pro Asp Glu Phe Leu Gln Val Lys Ser Val  
 35 40 45

Ile Pro Asp Gly Pro Ala Ala Gln Asp Gly Lys Met Glu Thr Gly Asp  
 50 55 60

Val Ile Val Tyr Ile Asn Glu Val Cys Val Leu Gly His Thr His Ala  
 65 70 75 80

Asp Val Val Lys Leu Phe Gln Ser Val Pro Ile Gly Gln Ser Val Asn  
 85 90 95

Leu Val Leu Cys Arg Gly Tyr Pro  
 100

<210> 113  
 <211> 93  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 113

His Tyr Lys Glu Leu Asp Val His Leu Arg Arg Met Glu Ser Gly Phe  
 1 5 10 15

Gly Phe Arg Ile Leu Gly Gly Asp Glu Pro Gly Gln Pro Ile Leu Ile  
 20 25 30

Gly Ala Val Ile Ala Met Gly Ser Ala Asp Arg Asp Gly Arg Leu His  
 35 40 45

Pro Gly Asp Glu Leu Val Tyr Val Asp Gly Ile Pro Val Ala Gly Lys  
50 55 60

Thr His Arg Tyr Val Ile Asp Leu Met His His Ala Ala Arg Asn Gly  
65 70 75 80

Gln Val Asn Leu Thr Val Arg Arg Lys Val Leu Cys Gly  
85 90

<210> 114  
<211> 106  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 114

Glu Gly Arg Gly Ile Ser Ser His Ser Leu Gln Thr Ser Asp Ala Val  
1 5 10 15

Ile His Arg Lys Glu Asn Glu Gly Phe Gly Phe Val Ile Ile Ser Ser  
20 25 30

Leu Asn Arg Pro Glu Ser Gly Ser Thr Ile Thr Val Pro His Lys Ile  
35 40 45

Gly Arg Ile Ile Asp Gly Ser Pro Ala Asp Arg Cys Ala Lys Leu Lys  
50 55 60

Val Gly Asp Arg Ile Leu Ala Val Asn Gly Gln Ser Ile Ile Asn Met  
65 70 75 80

Pro His Ala Asp Ile Val Lys Leu Ile Lys Asp Ala Gly Leu Ser Val  
85 90 95

Thr Leu Arg Ile Ile Pro Gln Glu Glu Leu  
100 105

<210> 115  
<211> 91  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 115

Leu Ser Gly Ala Thr Gln Ala Glu Leu Met Thr Leu Thr Ile Val Lys  
 1 5 10 15

Gly Ala Gln Gly Phe Gly Phe Thr Ile Ala Asp Ser Pro Thr Gly Gln  
 20 25 30

Arg Val Lys Gln Ile Leu Asp Ile Gln Gly Cys Pro Gly Leu Cys Glu  
 35 40 45

Gly Asp Leu Ile Val Glu Ile Asn Gln Gln Asn Val Gln Asn Leu Ser  
 50 55 60

His Thr Glu Val Val Asp Ile Leu Lys Asp Cys Pro Ile Gly Ser Glu  
 65 70 75 80

Thr Ser Leu Ile Ile His Arg Gly Gly Phe Phe  
 85 90

<210> 116  
 <211> 98  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 116

Leu Ser Asp Tyr Arg Gln Pro Gln Asp Phe Asp Tyr Phe Thr Val Asp  
 1 5 10 15

Met Glu Lys Gly Ala Lys Gly Phe Gly Phe Ser Ile Arg Gly Gly Arg  
 20 25 30

Glu Tyr Lys Met Asp Leu Tyr Val Leu Arg Leu Ala Glu Asp Gly Pro  
 35 40 45

Ala Ile Arg Asn Gly Arg Met Arg Val Gly Asp Gln Ile Ile Glu Ile  
 50 55 60

Asn Gly Glu Ser Thr Arg Asp Met Thr His Ala Arg Ala Ile Glu Leu  
 65 70 75 80

Ile Lys Ser Gly Gly Arg Arg Val Arg Leu Leu Leu Lys Arg Gly Thr  
 85 90 95

Gly Gln

<210> 117  
<211> 90  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 117

His Glu Ser Val Ile Gly Arg Asn Pro Glu Gly Gln Leu Gly Phe Glu  
1 5 10 15

Leu Lys Gly Gly Ala Glu Asn Gly Gln Phe Pro Tyr Leu Gly Glu Val  
20 25 30

Lys Pro Gly Lys Val Ala Tyr Glu Ser Gly Ser Lys Leu Val Ser Glu  
35 40 45

Glu Leu Leu Leu Glu Val Asn Glu Thr Pro Val Ala Gly Leu Thr Ile  
50 55 60

Arg Asp Val Leu Ala Val Ile Lys His Cys Lys Asp Pro Leu Arg Leu  
65 70 75 80

Lys Cys Val Lys Gln Gly Gly Ile His Arg  
85 90

<210> 118  
<211> 100  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 118

Ala Ser Ser Gly Ser Ser Gln Pro Glu Leu Val Thr Ile Pro Leu Ile  
1 5 10 15

Lys Gly Pro Lys Gly Phe Gly Phe Ala Ile Ala Asp Ser Pro Thr Gly  
20 25 30

Gln Lys Val Lys Met Ile Leu Asp Ser Gln Trp Cys Gln Gly Leu Gln  
35 40 45

Lys Gly Asp Ile Ile Lys Glu Ile Tyr His Gln Asn Val Gln Asn Leu  
50 55 60

Thr His Leu Gln Val Val Glu Val Leu Lys Gln Phe Pro Val Gly Ala  
 65 70 75 80

Asp Val Pro Leu Leu Ile Leu Arg Gly Gly Pro Pro Ser Pro Thr Lys  
 85 90 95

Thr Ala Lys Met  
 100

<210> 119  
 <211> 98  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 119

Gln Asn Leu Gly Cys Tyr Pro Val Glu Leu Glu Arg Gly Pro Arg Gly  
 1 5 10 15

Phe Gly Phe Ser Leu Arg Gly Gly Lys Glu Tyr Asn Met Gly Leu Phe  
 20 25 30

Ile Leu Arg Leu Ala Glu Asp Gly Pro Ala Ile Lys Asp Gly Arg Ile  
 35 40 45

His Val Gly Asp Gln Ile Val Glu Ile Asn Gly Glu Pro Thr Gln Gly  
 50 55 60

Ile Thr His Thr Arg Ala Ile Glu Leu Ile Gln Ala Gly Gly Asn Lys  
 65 70 75 80

Val Leu Leu Leu Leu Arg Pro Gly Thr Gly Leu Ile Pro Asp His Gly  
 85 90 95

Leu Ala

<210> 120  
 <211> 108  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 120



Leu Tyr Glu Asp Lys Pro Pro Asn Thr Lys Asp Leu Asp Val Phe Leu  
1 5 10 15

Arg Lys Gln Glu Ser Gly Phe Gly Phe Arg Val Leu Gly Gly Asp Gly  
20 25 30

Pro Asp Gln Ser Ile Tyr Ile Gly Ala Ile Ile Pro Leu Gly Ala Ala  
35 40 45

Glu Lys Asp Gly Arg Leu Arg Ala Ala Asp Glu Leu Met Cys Ile Asp  
50 55 60

Gly Ile Pro Val Lys Gly Lys Ser His Lys Gln Val Leu Asp Leu Met  
65 70 75 80

Thr Thr Ala Ala Arg Asn Gly His Val Leu Leu Thr Val Arg Arg Lys  
85 90 95

Ile Phe Tyr Gly Glu Lys Gln Pro Glu Asp Asp Ser  
100 105

<210> 121

<211> 102

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 121

Pro Ser Gln Leu Lys Gly Val Leu Val Arg Ala Ser Leu Lys Lys Ser  
1 5 10 15

Thr Met Gly Phe Gly Phe Thr Ile Ile Gly Gly Asp Arg Pro Asp Glu  
20 25 30

Phe Leu Gln Val Lys Asn Val Leu Lys Asp Gly Pro Ala Ala Gln Asp  
35 40 45

Gly Lys Ile Ala Pro Gly Asp Val Ile Val Asp Ile Asn Gly Asn Cys  
50 55 60

Val Leu Gly His Thr His Ala Asp Val Val Gln Met Phe Gln Leu Val  
65 70 75 80

Pro Val Asn Gln Tyr Val Asn Leu Thr Leu Cys Arg Gly Tyr Pro Leu  
85 90 95

Pro Asp Asp Ser Glu Asp  
100

<210> 122  
<211> 102  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 122

Pro Ala Pro Gln Glu Pro Tyr Asp Val Val Leu Gln Arg Lys Glu Asn  
1 5 10 15

Glu Gly Phe Gly Phe Val Ile Leu Thr Ser Lys Asn Lys Pro Pro Pro  
20 25 30

Gly Val Ile Pro His Lys Ile Gly Arg Val Ile Glu Gly Ser Pro Ala  
35 40 45

Asp Arg Cys Gly Lys Leu Lys Val Gly Asp His Ile Ser Ala Val Asn  
50 55 60

Gly Gln Ser Ile Val Glu Leu Ser His Asp Asn Ile Val Gln Leu Ile  
65 70 75 80

Lys Asp Ala Gly Val Thr Val Thr Leu Thr Val Ile Ala Glu Glu Glu  
85 90 95

His His Gly Pro Pro Ser  
100

<210> 123  
<211> 94  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 123

Gly Leu Arg Ser Pro Ile Thr Ile Gln Arg Ser Gly Lys Lys Tyr Gly  
1 5 10 15

Phe Thr Leu Arg Ala Ile Arg Val Tyr Met Gly Asp Thr Asp Val Tyr  
20 25 30

Ser Val His His Ile Val Trp His Val Glu Glu Gly Gly Pro Ala Gln  
 35 40 45

Glu Ala Gly Leu Cys Ala Gly Asp Leu Ile Thr His Val Asn Gly Glu  
 50 55 60

Pro Val His Gly Met Val His Pro Glu Val Val Glu Leu Ile Leu Lys  
 65 70 75 80

Ser Gly Asn Lys Val Ala Val Thr Thr Thr Pro Phe Glu Asn  
 85 90

<210> 124  
 <211> 101  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 124

Ile Ser Ala Leu Gly Ser Met Arg Pro Pro Ile Ile Ile His Arg Ala  
 1 5 10 15

Gly Lys Lys Tyr Gly Phe Thr Leu Arg Ala Ile Arg Val Tyr Met Gly  
 20 25 30

Asp Ser Asp Val Tyr Thr Val His His Met Val Trp His Val Glu Asp  
 35 40 45

Gly Gly Pro Ala Ser Glu Ala Gly Leu Arg Gln Gly Asp Leu Ile Thr  
 50 55 60

His Val Asn Gly Glu Pro Val His Gly Leu Val His Thr Glu Val Val  
 65 70 75 80

Glu Leu Ile Leu Lys Ser Gly Asn Lys Val Ala Ile Ser Thr Thr Pro  
 85 90 95

Leu Glu Asn Ser Ser  
 100

<210> 125  
 <211> 103  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 125

Leu Cys Gly Ser Leu Arg Pro Pro Ile Val Ile His Ser Ser Gly Lys  
1 5 10 15

Lys Tyr Gly Phe Ser Leu Arg Ala Ile Arg Val Tyr Met Gly Asp Ser  
20 25 30

Asp Val Tyr Thr Val His His Val Val Trp Ser Val Glu Asp Gly Ser  
35 40 45

Pro Ala Gln Glu Ala Gly Leu Arg Ala Gly Asp Leu Ile Thr His Ile  
50 55 60

Asn Gly Glu Ser Val Leu Gly Leu Val His Met Asp Val Val Glu Leu  
65 70 75 80

Leu Leu Lys Ser Gly Asn Lys Ile Ser Leu Arg Thr Thr Ala Leu Glu  
85 90 95

Asn Thr Ser Ile Lys Val Gly  
100

<210> 126

<211> 91

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 126

Pro His Gln Pro Ile Val Ile His Ser Ser Gly Lys Asn Tyr Gly Phe  
1 5 10 15

Thr Ile Arg Ala Ile Arg Val Tyr Val Gly Asp Ser Asp Ile Tyr Thr  
20 25 30

Val His His Ile Val Trp Asn Val Glu Glu Gly Ser Pro Ala Cys Gln  
35 40 45

Ala Gly Leu Lys Ala Gly Asp Leu Ile Thr His Ile Asn Gly Glu Pro  
50 55 60

Val His Gly Leu Val His Thr Glu Val Ile Glu Leu Leu Leu Lys Ser  
65 70 75 80

Gly Asn Lys Val Ser Ile Thr Thr Thr Pro Phe  
85 90

<210> 127  
<211> 100  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 127

Pro Ala Lys Met Glu Lys Glu Glu Thr Thr Arg Glu Leu Leu Leu Pro  
1 5 10 15

Asn Trp Gln Gly Ser Gly Ser His Gly Leu Thr Ile Ala Gln Arg Asp  
20 25 30

Asp Gly Val Phe Val Gln Glu Val Thr Gln Asn Ser Pro Ala Ala Arg  
35 40 45

Thr Gly Val Val Lys Glu Gly Asp Gln Ile Val Gly Ala Thr Ile Tyr  
50 55 60

Phe Asp Asn Leu Gln Ser Gly Glu Val Thr Gln Leu Leu Asn Thr Met  
65 70 75 80

Gly His His Thr Val Gly Leu Lys Leu His Arg Lys Gly Asp Arg Ser  
85 90 95

Pro Asn Ser Ser  
100

<210> 128  
<211> 98  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 128

Ser Glu Asn Cys Lys Asp Val Phe Ile Glu Lys Gln Lys Gly Glu Ile  
1 5 10 15

Leu Gly Val Val Ile Val Glu Ser Gly Trp Gly Ser Ile Leu Pro Thr  
20 25 30

Val Ile Ile Ala Asn Met Met His Gly Gly Pro Ala Glu Lys Ser Gly

35                      40                      45  
 Lys Leu Asn Ile Gly Asp Gln Ile Met Ser Ile Asn Gly Thr Ser Leu  
 50                      55                      60  
 Val Gly Leu Pro Leu Ser Thr Cys Gln Ser Ile Ile Lys Gly Leu Lys  
 65                      70                      75                      80  
 Asn Gln Ser Arg Val Lys Leu Asn Ile Val Arg Cys Pro Pro Val Asn  
 85                      90                      95

Ser Ser

<210> 129  
 <211> 178  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 129

Ser Glu Asn Cys Lys Asp Val Phe Ile Glu Lys Gln Lys Gly Glu Ile  
 1                      5                      10                      15  
 Leu Gly Val Val Ile Val Glu Ser Gly Trp Gly Ser Ile Leu Pro Thr  
 20                      25                      30  
 Val Ile Ile Ala Asn Met Met His Gly Gly Pro Ala Glu Lys Ser Gly  
 35                      40                      45  
 Lys Leu Asn Ile Gly Asp Gln Ile Met Ser Ile Asn Gly Thr Ser Leu  
 50                      55                      60  
 Val Gly Leu Pro Leu Ser Thr Cys Gln Ser Ile Ile Lys Gly Leu Glu  
 65                      70                      75                      80  
 Asn Gln Ser Arg Val Lys Leu Asn Ile Val Arg Cys Pro Pro Val Thr  
 85                      90                      95  
 Thr Val Leu Ile Arg Arg Pro Asp Leu Arg Tyr Gln Leu Gly Phe Ser  
 100                      105                      110  
 Val Gln Asn Gly Ile Ile Cys Ser Leu Met Arg Gly Gly Ile Ala Glu  
 115                      120                      125

Arg Gly Gly Val Arg Val Gly His Arg Ile Ile Glu Ile Asn Gly Gln  
 130 135 140

Ser Val Val Ala Thr Pro His Glu Lys Ile Val His Ile Leu Ser Asn  
 145 150 155 160

Ala Val Gly Glu Ile His Met Lys Thr Met Pro Ala Ala Met Tyr Arg  
 165 170 175

Leu Leu

<210> 130  
 <211> 92  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 130

Leu Arg Cys Pro Pro Val Thr Thr Val Leu Ile Arg Arg Pro Asp Leu  
 1 5 10 15

Arg Tyr Gln Leu Gly Phe Ser Val Gln Asn Gly Ile Ile Cys Ser Leu  
 20 25 30

Met Arg Gly Gly Ile Ala Glu Arg Gly Gly Val Arg Val Gly His Arg  
 35 40 45

Ile Ile Glu Ile Asn Gly Gln Ser Val Val Ala Thr Pro His Glu Lys  
 50 55 60

Ile Val His Ile Leu Ser Asn Ala Val Gly Glu Ile His Met Lys Thr  
 65 70 75 80

Met Pro Ala Ala Met Tyr Arg Leu Leu Asn Ser Ser  
 85 90

<210> 131  
 <211> 106  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 131

His Asn Gly Asp Leu Asp His Phe Ser Asn Ser Asp Asn Cys Arg Glu

|   |     |    |    |
|---|-----|----|----|
| 1   | 5   | 10 | 15 |
| Val His Leu Glu Lys Arg Arg Gly Glu Gly Leu Gly Val Ala Leu Val |     |    |    |
|   | 20  | 25 | 30 |
| Glu Ser Gly Trp Gly Ser Leu Leu Pro Thr Ala Val Ile Ala Asn Leu |     |    |    |
| 35  | 40  | 45 |    |
| Leu His Gly Gly Pro Ala Glu Arg Ser Gly Ala Leu Ser Ile Gly Asp |     |    |    |
| 50  | 55  | 60 |    |
| Arg Leu Thr Ala Ile Asn Gly Thr Ser Leu Val Gly Leu Pro Leu Ala |     |    |    |
| 65  | 70  | 75 | 80 |
| Ala Cys Gln Ala Ala Val Arg Glu Thr Lys Ser Gln Thr Ser Val Thr |     |    |    |
|   | 85  | 90 | 95 |
| Leu Ser Ile Val His Cys Pro Pro Val Thr                         |     |    |    |
| 100   | 105 |    |    |

<210> 132  
 <211> 90  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 132

|   |    |    |    |
|---|----|----|----|
| Pro Val Thr Thr Ala Ile Ile His Arg Pro His Ala Arg Glu Gln Leu |    |    |    |
| 1   | 5  | 10 | 15 |
| Gly Phe Cys Val Glu Asp Gly Ile Ile Cys Ser Leu Leu Arg Gly Gly |    |    |    |
| 20  | 25 | 30 |    |
| Ile Ala Glu Arg Gly Gly Ile Arg Val Gly His Arg Ile Ile Glu Ile |    |    |    |
| 35  | 40 | 45 |    |
| Asn Gly Gln Ser Val Val Ala Thr Pro His Ala Arg Ile Ile Glu Leu |    |    |    |
| 50  | 55 | 60 |    |
| Leu Thr Glu Ala Tyr Gly Glu Val His Ile Lys Thr Met Pro Ala Ala |    |    |    |
| 65  | 70 | 75 | 80 |
| Thr Tyr Arg Leu Leu Thr Gly Asn Ser Ser                         |    |    |    |
| 85  | 90 |    |    |



<210> 133  
 <211> 103  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 133

Leu Ser Asn Ser Asp Asn Cys Arg Glu Val His Leu Glu Lys Arg Arg  
 1 5 10 15

Gly Glu Gly Leu Gly Val Ala Leu Val Glu Ser Gly Trp Gly Ser Leu  
 20 25 30

Leu Pro Thr Ala Val Ile Ala Asn Leu Leu His Gly Gly Pro Ala Glu  
 35 40 45

Arg Ser Gly Ala Leu Ser Ile Gly Asp Arg Leu Thr Ala Ile Asn Gly  
 50 55 60

Thr Ser Leu Val Gly Leu Pro Leu Ala Ala Cys Gln Ala Ala Val Arg  
 65 70 75 80

Glu Thr Lys Ser Gln Thr Ser Val Thr Leu Ser Ile Val His Cys Pro  
 85 90 95

Pro Val Thr Thr Ala Ile Met  
 100

<210> 134  
 <211> 86  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 134

Arg Lys Val Arg Leu Ile Gln Phe Glu Lys Val Thr Glu Glu Pro Met  
 1 5 10 15

Gly Ile Thr Leu Lys Leu Asn Glu Lys Gln Ser Cys Thr Val Ala Arg  
 20 25 30

Ile Leu His Gly Gly Met Ile His Arg Gln Gly Ser Leu His Val Gly  
 35 40 45

Asp Glu Ile Leu Glu Ile Asn Gly Thr Asn Val Thr Asn His Ser Val  
 50 55 60

Asp Gln Leu Gln Lys Ala Met Lys Glu Thr Lys Gly Met Ile Ser Leu  
 65 70 75 80

Lys Val Ile Pro Asn Gln  
 85

<210> 135  
 <211> 89  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 135

Pro Val Pro Pro Asp Ala Val Arg Met Val Gly Ile Arg Lys Thr Ala  
 1 5 10 15

Gly Glu His Leu Gly Val Thr Phe Arg Val Glu Gly Gly Glu Leu Val  
 20 25 30

Ile Ala Arg Ile Leu His Gly Gly Met Val Ala Gln Gln Gly Leu Leu  
 35 40 45

His Val Gly Asp Ile Ile Lys Glu Val Asn Gly Gln Pro Val Gly Ser  
 50 55 60

Asp Pro Arg Ala Leu Gln Glu Leu Leu Arg Asn Ala Ser Gly Ser Val  
 65 70 75 80

Ile Leu Lys Ile Leu Pro Asn Tyr Gln  
 85

<210> 136  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 136

Asn Ile Asp Glu Asp Phe Asp Glu Glu Ser Val Lys Ile Val Arg Leu  
 1 5 10 15

Val Lys Asn Lys Glu Pro Leu Gly Ala Thr Ile Arg Arg Asp Glu His

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
|     | 20  |     | 25  |     | 30  |
| Ser | Gly | Ala | Val | Val | Val |
|     | 35  |     |     | Ala | Arg |
|     |     |     |     | 40  | Ile |
|     |     |     |     |     | Met |
|     |     |     |     |     | Arg |
|     |     |     |     |     | Gly |
|     |     |     |     |     | 45  |
|     |     |     |     |     | Gly |
|     |     |     |     |     | Ala |
|     |     |     |     |     | Ala |
|     |     |     |     |     | Asp |

  

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| Arg | Ser | Gly | Leu | Val | His |
|     | 50  |     |     |     | 55  |
|     |     |     |     |     | Val |
|     |     |     |     |     | Gly |
|     |     |     |     |     | Asp |
|     |     |     |     |     | Glu |
|     |     |     |     |     | 60  |
|     |     |     |     |     | Leu |
|     |     |     |     |     | Arg |
|     |     |     |     |     | Glu |
|     |     |     |     |     | Val |
|     |     |     |     |     | Asn |
|     |     |     |     |     | Gly |

  

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| Ile | Ala | Val | Leu | His | Lys |
|     | 65  |     |     |     | 70  |
|     |     |     |     |     | Arg |
|     |     |     |     |     | Pro |
|     |     |     |     |     | Asp |
|     |     |     |     |     | Glu |
|     |     |     |     |     | 75  |
|     |     |     |     |     | Ile |
|     |     |     |     |     | Ser |
|     |     |     |     |     | Gln |
|     |     |     |     |     | Ile |
|     |     |     |     |     | Leu |
|     |     |     |     |     | Ala |
|     |     |     |     |     | 80  |

  

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| Gln | Ser | Gln | Gly | Ser | Ile |
|     |     |     |     | 85  | Thr |
|     |     |     |     |     | Leu |
|     |     |     |     |     | Lys |
|     |     |     |     |     | 90  |
|     |     |     |     |     | Ile |
|     |     |     |     |     | Ile |
|     |     |     |     |     | Pro |
|     |     |     |     |     | Ala |
|     |     |     |     |     | Thr |
|     |     |     |     |     | 95  |
|     |     |     |     |     | Gln |
|     |     |     |     |     | Glu |

  

Glu Asp Arg

<210> 137  
 <211> 100  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 137

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| Trp | Glu | Ala | Gly | Ile | Gln |
|     |     |     |     | 5   | His |
|     |     |     |     |     | Ile |
|     |     |     |     |     | Glu |
|     |     |     |     |     | 10  |
|     |     |     |     |     | Leu |
|     |     |     |     |     | Glu |
|     |     |     |     |     | Lys |
|     |     |     |     |     | Gly |
|     |     |     |     |     | 15  |
|     |     |     |     |     | Ser |
|     |     |     |     |     | Lys |
|     |     |     |     |     | Gly |

  

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| Leu | Gly | Phe | Ser | Ile | Leu |
|     |     |     | 20  |     | Asp |
|     |     |     |     |     | Tyr |
|     |     |     |     |     | 25  |
|     |     |     |     |     | Gln |
|     |     |     |     |     | Asp |
|     |     |     |     |     | Pro |
|     |     |     |     |     | Ile |
|     |     |     |     |     | Asp |
|     |     |     |     |     | 30  |
|     |     |     |     |     | Pro |
|     |     |     |     |     | Ala |
|     |     |     |     |     | Ser |

  

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| Thr | Val | Ile | Ile | Ile | Arg |
|     |     | 35  |     |     | Ser |
|     |     |     |     |     | Leu |
|     |     |     |     |     | 40  |
|     |     |     |     |     | Val |
|     |     |     |     |     | Pro |
|     |     |     |     |     | Gly |
|     |     |     |     |     | 45  |
|     |     |     |     |     | Gly |
|     |     |     |     |     | Ile |
|     |     |     |     |     | Ala |
|     |     |     |     |     | Glu |
|     |     |     |     |     | Lys |

  

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| Asp | Gly | Arg | Leu | Leu | Pro |
|     | 50  |     |     |     | Gly |
|     |     |     |     |     | 55  |
|     |     |     |     |     | Asp |
|     |     |     |     |     | Arg |
|     |     |     |     |     | Leu |
|     |     |     |     |     | Met |
|     |     |     |     |     | 60  |
|     |     |     |     |     | Phe |
|     |     |     |     |     | Val |
|     |     |     |     |     | Asn |
|     |     |     |     |     | Asp |
|     |     |     |     |     | Val |

  

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| Asn | Leu | Glu | Asn | Ser | Ser |
|     | 65  |     |     |     | 70  |
|     |     |     |     |     | Leu |
|     |     |     |     |     | Glu |
|     |     |     |     |     | Glu |
|     |     |     |     |     | Ala |
|     |     |     |     |     | 75  |
|     |     |     |     |     | Val |
|     |     |     |     |     | Glu |
|     |     |     |     |     | Ala |
|     |     |     |     |     | Leu |
|     |     |     |     |     | Lys |
|     |     |     |     |     | Gly |
|     |     |     |     |     | 80  |

  

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| Ala | Pro | Ser | Gly | Thr | Val |
|     |     |     |     | 85  | Arg |
|     |     |     |     |     | Ile |
|     |     |     |     |     | Gly |
|     |     |     |     |     | Val |
|     |     |     |     |     | 90  |
|     |     |     |     |     | Ala |
|     |     |     |     |     | Lys |
|     |     |     |     |     | Pro |
|     |     |     |     |     | Leu |
|     |     |     |     |     | 95  |
|     |     |     |     |     | Pro |
|     |     |     |     |     | Leu |

  

|     |     |     |     |
|-----|-----|-----|-----|
| Ser | Pro | Glu | Glu |
|     |     |     | 100 |

<210> 138  
 <211> 96  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 138

Leu Gln Gly Leu Arg Thr Val Glu Met Lys Lys Gly Pro Thr Asp Ser  
 1 5 10 15

Leu Gly Ile Ser Ile Ala Gly Gly Val Gly Ser Pro Leu Gly Asp Val  
 20 25 30

Pro Ile Phe Ile Ala Met Met His Pro Thr Gly Val Ala Ala Gln Thr  
 35 40 45

Gln Lys Leu Arg Val Gly Asp Arg Ile Val Thr Ile Cys Gly Thr Ser  
 50 55 60

Thr Glu Gly Met Thr His Thr Gln Ala Val Asn Leu Leu Lys Asn Ala  
 65 70 75 80

Ser Gly Ser Ile Glu Met Gln Val Val Ala Gly Gly Asp Val Ser Val  
 85 90 95

<210> 139  
 <211> 97  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 139

Pro Val His Trp Gln His Met Glu Thr Ile Glu Leu Val Asn Asp Gly  
 1 5 10 15

Ser Gly Leu Gly Phe Gly Ile Ile Gly Gly Lys Ala Thr Gly Val Ile  
 20 25 30

Val Lys Thr Ile Leu Pro Gly Gly Val Ala Asp Gln His Gly Arg Leu  
 35 40 45

Cys Ser Gly Asp His Ile Leu Lys Ile Gly Asp Thr Asp Leu Ala Gly  
 50 55 60

Met Ser Ser Glu Gln Val Ala Gln Val Leu Arg Gln Cys Gly Asn Arg

65

70

75

80

Val Lys Leu Met Ile Ala Arg Gly Ala Ile Glu Glu Arg Thr Ala Pro  
                   85                  90                  95

Thr

&lt;210&gt; 140

&lt;211&gt; 98

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetic peptide

&lt;400&gt; 140

Gln Glu Ser Glu Thr Phe Asp Val Glu Leu Thr Lys Asn Val Gln Gly  
   1                  5                  10                  15

Leu Gly Ile Thr Ile Ala Gly Tyr Ile Gly Asp Lys Lys Leu Glu Pro  
           20                  25                  30

Ser Gly Ile Phe Val Lys Ser Ile Thr Lys Ser Ser Ala Val Glu His  
           35                  40                  45

Asp Gly Arg Ile Gln Ile Gly Asp Gln Ile Ile Ala Val Asp Gly Thr  
       50                  55                  60

Asn Leu Gln Gly Phe Thr Asn Gln Gln Ala Val Glu Val Leu Arg His  
   65                  70                  75                  80

Thr Gly Gln Thr Val Leu Leu Thr Leu Met Arg Arg Gly Met Lys Gln  
                   85                  90                  95

Glu Ala

&lt;210&gt; 141

&lt;211&gt; 98

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetic peptide

&lt;400&gt; 141

Lys Glu Glu Glu Val Cys Asp Thr Leu Thr Ile Glu Leu Gln Lys Lys  
   1                  5                  10                  15

Pro Gly Lys Gly Leu Gly Leu Ser Ile Val Gly Lys Arg Asn Asp Thr  
20 25 30

Gly Val Phe Val Ser Asp Ile Val Lys Gly Gly Ile Ala Asp Ala Asp  
35 40 45

Gly Arg Leu Met Gln Gly Asp Gln Ile Leu Met Val Asn Gly Glu Asp  
50 55 60

Val Arg Asn Ala Thr Gln Glu Ala Val Ala Ala Leu Leu Lys Cys Ser  
65 70 75 80

Leu Gly Thr Val Thr Leu Glu Val Gly Arg Ile Lys Ala Gly Pro Phe  
85 90 95

His Ser

<210> 142  
<211> 95  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 142

Leu Thr Gly Glu Leu His Met Ile Glu Leu Glu Lys Gly His Ser Gly  
1 5 10 15

Leu Gly Leu Ser Leu Ala Gly Asn Lys Asp Arg Ser Arg Met Ser Val  
20 25 30

Phe Ile Val Gly Ile Asp Pro Asn Gly Ala Ala Gly Lys Asp Gly Arg  
35 40 45

Leu Gln Ile Ala Asp Glu Leu Leu Glu Ile Asn Gly Gln Ile Leu Tyr  
50 55 60

Gly Arg Ser His Gln Asn Ala Ser Ser Ile Ile Lys Cys Ala Pro Ser  
65 70 75 80

Lys Val Lys Ile Ile Phe Ile Arg Asn Lys Asp Ala Val Asn Gln  
85 90 95

<210> 143

<211> 91  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 143

Leu Gly Pro Pro Gln Cys Lys Ser Ile Thr Leu Glu Arg Gly Pro Asp  
1 5 10 15

Gly Leu Gly Phe Ser Ile Val Gly Gly Tyr Gly Ser Pro His Gly Asp  
20 25 30

Leu Pro Ile Tyr Val Lys Thr Val Phe Ala Lys Gly Ala Ala Ser Glu  
35 40 45

Asp Gly Arg Leu Lys Arg Gly Asp Gln Ile Ile Ala Val Asn Gly Gln  
50 55 60

Ser Leu Glu Gly Val Thr His Glu Glu Ala Val Ala Ile Leu Lys Arg  
65 70 75 80

Thr Lys Gly Thr Val Thr Leu Met Val Leu Ser  
85 90

<210> 144  
<211> 99  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 144

Arg Asn Val Ser Lys Glu Ser Phe Glu Arg Thr Ile Asn Ile Ala Lys  
1 5 10 15

Gly Asn Ser Ser Leu Gly Met Thr Val Ser Ala Asn Lys Asp Gly Leu  
20 25 30

Gly Met Ile Val Arg Ser Ile Ile His Gly Gly Ala Ile Ser Arg Asp  
35 40 45

Gly Arg Ile Ala Ile Gly Asp Cys Ile Leu Ser Ile Asn Glu Glu Ser  
50 55 60

Thr Ile Ser Val Thr Asn Ala Gln Ala Arg Ala Met Leu Arg Arg His  
65 70 75 80

Ser Leu Ile Gly Pro Asp Ile Lys Ile Thr Tyr Val Pro Ala Glu His  
85 90 95

Leu Glu Glu

<210> 145  
<211> 95  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 145

Leu Pro Gly Cys Glu Thr Thr Ile Glu Ile Ser Lys Gly Arg Thr Gly  
1 5 10 15

Leu Gly Leu Ser Ile Val Gly Gly Ser Asp Thr Leu Leu Gly Ala Ile  
20 25 30

Ile Ile His Glu Val Tyr Glu Glu Gly Ala Ala Cys Lys Asp Gly Arg  
35 40 45

Leu Trp Ala Gly Asp Gln Ile Leu Glu Val Asn Gly Ile Asp Leu Arg  
50 55 60

Lys Ala Thr His Asp Glu Ala Ile Asn Val Leu Arg Gln Thr Pro Gln  
65 70 75 80

Arg Val Arg Leu Thr Leu Tyr Arg Asp Glu Ala Pro Tyr Lys Glu  
85 90 95

<210> 146  
<211> 112  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 146

Leu Asn Trp Asn Gln Pro Arg Arg Val Glu Leu Trp Arg Glu Pro Ser  
1 5 10 15

Lys Ser Leu Gly Ile Ser Ile Val Gly Gly Arg Gly Met Gly Ser Arg  
20 25 30



Leu Ser Asn Gly Glu Val Met Arg Gly Ile Phe Ile Lys His Val Leu  
35 40 45

Glu Asp Ser Pro Ala Gly Lys Asn Gly Thr Leu Lys Pro Gly Asp Arg  
50 55 60

Ile Val Glu Val Asp Gly Met Asp Leu Arg Asp Ala Ser His Glu Gln  
65 70 75 80

Ala Val Glu Ala Ile Arg Lys Ala Gly Asn Pro Val Val Phe Met Val  
85 90 95

Gln Ser Ile Ile Asn Arg Pro Arg Lys Ser Pro Leu Pro Ser Leu Leu  
100 105 110

<210> 147  
<211> 94  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 147

Leu Ser Ser Phe Lys Asn Val Gln His Leu Glu Leu Pro Lys Asp Gln  
1 5 10 15

Gly Gly Leu Gly Ile Ala Ile Ser Glu Glu Asp Thr Leu Ser Gly Val  
20 25 30

Ile Ile Lys Ser Leu Thr Glu His Gly Val Ala Ala Thr Asp Gly Arg  
35 40 45

Leu Lys Val Gly Asp Gln Ile Leu Ala Val Asp Asp Glu Ile Val Val  
50 55 60

Gly Tyr Pro Ile Glu Lys Phe Ile Ser Leu Leu Lys Thr Ala Lys Met  
65 70 75 80

Thr Val Lys Leu Thr Ile His Ala Glu Asn Pro Asp Ser Gln  
85 90

<210> 148  
<211> 99  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 148

Gln Gly Arg His Val Glu Val Phe Glu Leu Leu Lys Pro Pro Ser Gly  
1 5 10 15

Gly Leu Gly Phe Ser Val Val Gly Leu Arg Ser Glu Asn Arg Gly Glu  
20 25 30

Leu Gly Ile Phe Val Gln Glu Ile Gln Glu Gly Ser Val Ala His Arg  
35 40 45

Asp Gly Arg Leu Lys Glu Thr Asp Gln Ile Leu Ala Ile Asn Gly Gln  
50 55 60

Ala Leu Asp Gln Thr Ile Thr His Gln Gln Ala Ile Ser Ile Leu Gln  
65 70 75 80

Lys Ala Lys Asp Thr Val Gln Leu Val Ile Ala Arg Gly Ser Leu Pro  
85 90 95

Gln Leu Val

<210> 149

<211> 92

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 149

Leu Asn Tyr Glu Ile Val Val Ala His Val Ser Lys Phe Ser Glu Asn  
1 5 10 15

Ser Gly Leu Gly Ile Ser Leu Glu Ala Thr Val Gly His His Phe Ile  
20 25 30

Arg Ser Val Leu Pro Glu Gly Pro Val Gly His Ser Gly Lys Leu Phe  
35 40 45

Ser Gly Asp Glu Leu Leu Glu Val Asn Gly Ile Thr Leu Leu Gly Glu  
50 55 60

Asn His Gln Asp Val Val Asn Ile Leu Lys Glu Leu Pro Ile Glu Val

65

70

75

80

Thr Met Val Cys Cys Arg Arg Thr Val Pro Pro Thr  
                     85                    90

&lt;210&gt; 150

&lt;211&gt; 90

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetic peptide

&lt;400&gt; 150

Ile Thr Leu Leu Lys Gly Pro Lys Gly Leu Gly Phe Ser Ile Ala Gly  
   1                    5                    10                    15

Gly Ile Gly Asn Gln His Ile Pro Gly Asp Asn Ser Ile Tyr Ile Thr  
                     20                    25                    30

Lys Ile Ile Glu Gly Gly Ala Ala Gln Lys Asp Gly Arg Leu Gln Ile  
           35                    40                    45

Gly Asp Arg Leu Leu Ala Val Asn Asn Thr Asn Leu Gln Asp Val Arg  
       50                    55                    60

His Glu Glu Ala Val Ala Ser Leu Lys Asn Thr Ser Asp Met Val Tyr  
   65                    70                    75                    80

Leu Lys Val Ala Lys Pro Gly Ser Leu Glu  
                     85                    90

&lt;210&gt; 151

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetic peptide

&lt;400&gt; 151

Ile Gln Tyr Glu Glu Ile Val Leu Glu Arg Gly Asn Ser Gly Leu Gly  
   1                    5                    10                    15

Phe Ser Ile Ala Gly Gly Ile Asp Asn Pro His Val Pro Asp Asp Pro  
           20                    25                    30

Gly Ile Phe Ile Thr Lys Ile Ile Pro Gly Gly Ala Ala Ala Met Asp  
       35                    40                    45

Gly Arg Leu Gly Val Asn Asp Cys Val Leu Arg Val Asn Glu Val Glu  
50 55 60

Val Ser Glu Val Val His Ser Arg Ala Val Glu Ala Leu Lys Glu Ala  
65 70 75 80

Gly Pro Val Val Arg Leu Val Val Arg Arg Arg Gln Asn  
85 90

<210> 152  
<211> 119  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 152

Ile Leu Leu His Lys Gly Ser Thr Gly Leu Gly Phe Asn Ile Val Gly  
1 5 10 15

Gly Glu Asp Gly Glu Gly Ile Phe Val Ser Phe Ile Leu Ala Gly Gly  
20 25 30

Pro Ala Asp Leu Ser Gly Glu Leu Arg Arg Gly Asp Arg Ile Leu Ser  
35 40 45

Val Asn Gly Val Asn Leu Arg Asn Ala Thr His Glu Gln Ala Ala Ala  
50 55 60

Ala Leu Lys Arg Ala Gly Gln Ser Val Thr Ile Val Ala Gln Tyr Arg  
65 70 75 80

Pro Glu Glu Tyr Ser Arg Phe Glu Ser Lys Ile His Asp Leu Arg Glu  
85 90 95

Gln Met Met Asn Ser Ser Met Ser Ser Gly Ser Gly Ser Leu Arg Thr  
100 105 110

Ser Glu Lys Arg Ser Leu Glu  
115

<210> 153  
<211> 187  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 153

Tyr Glu Glu Ile Val Leu Glu Arg Gly Asn Ser Gly Leu Gly Phe Ser  
1 5 10 15

Ile Ala Gly Gly Ile Asp Asn Pro His Val Pro Asp Asp Pro Gly Ile  
20 25 30

Phe Ile Thr Lys Ile Ile Pro Gly Gly Ala Ala Ala Met Asp Gly Arg  
35 40 45

Leu Gly Val Asn Asp Cys Val Leu Arg Val Asn Glu Val Glu Val Ser  
50 55 60

Glu Val Val His Ser Arg Ala Val Glu Ala Leu Lys Glu Ala Gly Pro  
65 70 75 80

Val Val Arg Leu Val Val Arg Arg Arg Gln Pro Pro Pro Glu Thr Ile  
85 90 95

Met Glu Val Asn Leu Leu Lys Gly Pro Lys Gly Leu Gly Phe Ser Ile  
100 105 110

Ala Gly Gly Ile Gly Asn Gln His Ile Pro Gly Asp Asn Ser Ile Tyr  
115 120 125

Ile Thr Lys Ile Ile Glu Gly Gly Ala Ala Gln Lys Asp Gly Arg Leu  
130 135 140

Gln Ile Gly Asp Arg Leu Leu Ala Val Asn Asn Thr Asn Leu Gln Asp  
145 150 155 160

Val Arg His Glu Glu Ala Val Ala Ser Leu Lys Asn Thr Ser Asp Met  
165 170 175

Val Tyr Leu Lys Val Ala Lys Pro Gly Ser Leu  
180 185

<210> 154

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 154

Arg Val Glu Arg Leu Glu Leu Phe Pro Val Glu Leu Glu Lys Asp Ser  
1 5 10 15

Glu Gly Leu Gly Ile Ser Ile Ile Gly Met Gly Ala Gly Ala Asp Met  
20 25 30

Gly Leu Glu Lys Leu Gly Ile Phe Val Lys Thr Val Thr Glu Gly Gly  
35 40 45

Ala Ala His Arg Asp Gly Arg Ile Gln Val Asn Asp Leu Leu Val Glu  
50 55 60

Val Asp Gly Thr Ser Leu Val Gly Val Thr Gln Ser Phe Ala Ala Ser  
65 70 75 80

Val Leu Arg Asn Thr Lys Gly Arg Val Arg Cys Arg Phe Met Ile Gly  
85 90 95

Arg Glu Arg Pro Gly Glu Gln Ser Glu Val  
100 105

<210> 155

<211> 90

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 155

Gln Pro Asn Val Ile Ser Val Arg Leu Phe Lys Arg Lys Val Gly Gly  
1 5 10 15

Leu Gly Phe Leu Val Lys Glu Arg Val Ser Lys Pro Pro Val Ile Ile  
20 25 30

Ser Asp Leu Ile Arg Gly Gly Ala Ala Glu Gln Ser Gly Leu Ile Gln  
35 40 45

Ala Gly Asp Ile Ile Leu Ala Val Asn Gly Arg Pro Leu Val Asp Leu  
50 55 60

Ser Tyr Asp Ser Ala Leu Glu Val Leu Arg Gly Ile Ala Ser Glu Thr  
65 70 75 80

His Val Val Leu Ile Leu Arg Gly Pro Glu

<210> 156  
 <211> 103  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 156

Pro Ser Asp Thr Ser Ser Glu Asp Gly Val Arg Arg Ile Val His Leu  
 1 5 10 15

Tyr Thr Thr Ser Asp Asp Phe Cys Leu Gly Phe Asn Ile Arg Gly Gly  
 20 25 30

Lys Glu Phe Gly Leu Gly Ile Tyr Val Ser Lys Val Asp His Gly Gly  
 35 40 45

Leu Ala Glu Glu Asn Gly Ile Lys Val Gly Asp Gln Val Leu Ala Ala  
 50 55 60

Asn Gly Val Arg Phe Asp Asp Ile Ser His Ser Gln Ala Val Glu Val  
 65 70 75 80

Leu Lys Gly Gln Thr His Ile Met Leu Thr Ile Lys Glu Thr Gly Arg  
 85 90 95

Tyr Pro Ala Tyr Lys Glu Met  
 100

<210> 157  
 <211> 104  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 157

Glu Ala Asn Ser Asp Glu Ser Asp Ile Ile His Ser Val Arg Val Glu  
 1 5 10 15

Lys Ser Pro Ala Gly Arg Leu Gly Phe Ser Val Arg Gly Gly Ser Glu  
 20 25 30

His Gly Leu Gly Ile Phe Val Ser Lys Val Glu Glu Gly Ser Ser Ala  
 35 40 45

Glu Arg Ala Gly Leu Cys Val Gly Asp Lys Ile Thr Glu Val Asn Gly  
50 55 60

Leu Ser Leu Glu Ser Thr Thr Met Gly Ser Ala Val Lys Val Leu Thr  
65 70 75 80

Ser Ser Ser Arg Leu His Met Met Val Arg Arg Met Gly Arg Val Pro  
85 90 95

Gly Ile Lys Phe Ser Lys Glu Lys  
100

<210> 158

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 158

Asp Lys Ile Lys Lys Phe Leu Thr Glu Ser His Asp Arg Gln Ala Lys  
1 5 10 15

Gly Lys Ala Ile Thr Lys Lys Lys Tyr Ile Gly Ile Arg Met Met Ser  
20 25 30

Leu Thr Ser Ser Lys Ala Lys Glu Leu Lys Asp Arg His Arg Asp Phe  
35 40 45

Pro Asp Val Ile Ser Gly Ala Tyr Ile Ile Glu Val Ile Pro Asp Thr  
50 55 60

Pro Ala Glu Ala Gly Gly Leu Lys Glu Asn Asp Val Ile Ile Ser Ile  
65 70 75 80

Asn Gly Gln Ser Val Val Ser Ala Asn Asp Val Ser Asp Val Ile Lys  
85 90 95

Arg Glu Ser Thr Leu Asn Met Val Val Arg Arg Gly Asn Glu Asp Ile  
100 105 110

Met Ile Thr Val  
115



<210> 159  
 <211> 98  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 159

Tyr Arg Pro Arg Asp Asp Ser Phe His Val Ile Leu Asn Lys Ser Ser  
 1 5 10 15

Pro Glu Glu Gln Leu Gly Ile Lys Leu Val Arg Lys Val Asp Glu Pro  
 20 25 30

Gly Val Phe Ile Phe Asn Ala Leu Asp Gly Gly Val Ala Tyr Arg His  
 35 40 45

Gly Gln Leu Glu Glu Asn Asp Arg Val Leu Ala Ile Asn Gly His Asp  
 50 55 60

Leu Arg Tyr Gly Ser Pro Glu Ser Ala Ala His Leu Ile Gln Ala Ser  
 65 70 75 80

Glu Arg Arg Val His Leu Val Val Ser Arg Gln Val Arg Gln Arg Ser  
 85 90 95

Pro Asp

<210> 160  
 <211> 100  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 160

Pro Thr Ile Thr Cys His Glu Lys Val Val Asn Ile Gln Lys Asp Pro  
 1 5 10 15

Gly Glu Ser Leu Gly Met Thr Val Ala Gly Gly Ala Ser His Arg Glu  
 20 25 30

Trp Asp Leu Pro Ile Tyr Val Ile Ser Val Glu Pro Gly Gly Val Ile  
 35 40 45

Ser Arg Asp Gly Arg Ile Lys Thr Gly Asp Ile Leu Leu Asn Val Asp

50

55

60

Gly Val Glu Leu Thr Glu Val Ser Arg Ser Glu Ala Val Ala Leu Leu  
65 70 75 80

Lys Arg Thr Ser Ser Ser Ile Val Leu Lys Ala Leu Glu Val Lys Glu  
85 90 95

Tyr Glu Pro Gln  
100

<210> 161  
<211> 97  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 161

Pro Asp Gly Glu Ile Thr Ser Ile Lys Ile Asn Arg Val Asp Pro Ser  
1 5 10 15

Glu Ser Leu Ser Ile Arg Leu Val Gly Gly Ser Glu Thr Pro Leu Val  
20 25 30

His Ile Ile Ile Gln His Ile Tyr Arg Asp Gly Val Ile Ala Arg Asp  
35 40 45

Gly Arg Leu Leu Pro Arg Asp Ile Ile Leu Lys Val Asn Gly Met Asp  
50 55 60

Ile Ser Asn Val Pro His Asn Tyr Ala Val Arg Leu Leu Arg Gln Pro  
65 70 75 80

Cys Gln Val Leu Trp Leu Thr Val Met Arg Glu Gln Lys Phe Arg Ser  
85 90 95

Arg

<210> 162  
<211> 99  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 162

Pro Arg Cys Leu Tyr Asn Cys Lys Asp Ile Val Leu Arg Arg Asn Thr  
1 5 10 15

Ala Gly Ser Leu Gly Phe Cys Ile Val Gly Gly Tyr Glu Glu Tyr Asn  
20 25 30

Gly Asn Lys Pro Phe Phe Ile Lys Ser Ile Val Glu Gly Thr Pro Ala  
35 40 45

Tyr Asn Asp Gly Arg Ile Arg Cys Gly Asp Ile Leu Leu Ala Val Asn  
50 55 60

Gly Arg Ser Thr Ser Gly Met Ile His Ala Cys Leu Ala Arg Leu Leu  
65 70 75 80

Lys Glu Leu Lys Gly Arg Ile Thr Leu Thr Ile Val Ser Trp Pro Gly  
85 90 95

Thr Phe Leu

<210> 163

<211> 101

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 163

Leu Leu Thr Glu Glu Glu Ile Asn Leu Thr Arg Gly Pro Ser Gly Leu  
1 5 10 15

Gly Phe Asn Ile Val Gly Gly Thr Asp Gln Gln Tyr Val Ser Asn Asp  
20 25 30

Ser Gly Ile Tyr Val Ser Arg Ile Lys Glu Asn Gly Ala Ala Ala Leu  
35 40 45

Asp Gly Arg Leu Gln Glu Gly Asp Lys Ile Leu Ser Val Asn Gly Gln  
50 55 60

Asp Leu Lys Asn Leu Leu His Gln Asp Ala Val Asp Leu Phe Arg Asn  
65 70 75 80

Ala Gly Tyr Ala Val Ser Leu Arg Val Gln His Arg Leu Gln Val Gln

85

90

95

Asn Gly Ile His Ser  
100

<210> 164  
<211> 94  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 164

Pro Val Asp Ala Ile Arg Ile Leu Gly Ile His Lys Arg Ala Gly Glu  
1 5 10 15

Pro Leu Gly Val Thr Phe Arg Val Glu Asn Asn Asp Leu Val Ile Ala  
20 25 30

Arg Ile Leu His Gly Gly Met Ile Asp Arg Gln Gly Leu Leu His Val  
35 40 45

Gly Asp Ile Ile Lys Glu Val Asn Gly His Glu Val Gly Asn Asn Pro  
50 55 60

Lys Glu Leu Gln Glu Leu Leu Lys Asn Ile Ser Gly Ser Val Thr Leu  
65 70 75 80

Lys Ile Leu Pro Ser Tyr Arg Asp Thr Ile Thr Pro Gln Gln  
85 90

<210> 165  
<211> 94  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 165

Gly Lys Arg Leu Asn Ile Gln Leu Lys Lys Gly Thr Glu Gly Leu Gly  
1 5 10 15

Phe Ser Ile Thr Ser Arg Asp Val Thr Ile Gly Gly Ser Ala Pro Ile  
20 25 30

Tyr Val Lys Asn Ile Leu Pro Arg Gly Ala Ala Ile Gln Asp Gly Arg  
35 40 45

Leu Lys Ala Gly Asp Arg Leu Ile Glu Val Asn Gly Val Asp Leu Val  
 50 55 60

Gly Lys Ser Gln Glu Glu Val Val Ser Leu Leu Arg Ser Thr Lys Met  
 65 70 75 80

Glu Gly Thr Val Ser Leu Leu Val Phe Arg Gln Glu Asp Ala  
 85 90

<210> 166  
 <211> 106  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 166

Ile Pro Asn Phe Ser Leu Asp Asp Met Val Lys Leu Val Glu Val Pro  
 1 5 10 15

Asn Asp Gly Gly Pro Leu Gly Ile His Val Val Pro Phe Ser Ala Arg  
 20 25 30

Gly Gly Arg Thr Leu Gly Leu Leu Val Lys Arg Leu Glu Lys Gly Gly  
 35 40 45

Lys Ala Glu His Glu Asn Leu Phe Arg Glu Asn Asp Cys Ile Val Arg  
 50 55 60

Ile Asn Asp Gly Asp Leu Arg Asn Arg Arg Phe Glu Gln Ala Gln His  
 65 70 75 80

Met Phe Arg Gln Ala Met Arg Thr Pro Ile Ile Trp Phe His Val Val  
 85 90 95

Pro Ala Ala Asn Lys Glu Gln Tyr Glu Gln  
 100 105

<210> 167  
 <211> 113  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 167

Pro Arg Glu Phe Leu Thr Phe Glu Val Pro Leu Asn Asp Ser Gly Ser  
1 5 10 15

Ala Gly Leu Gly Val Ser Val Lys Gly Asn Arg Ser Lys Glu Asn His  
20 25 30

Ala Asp Leu Gly Ile Phe Val Lys Ser Ile Ile Asn Gly Gly Ala Ala  
35 40 45

Ser Lys Asp Gly Arg Leu Arg Val Asn Asp Gln Leu Ile Ala Val Asn  
50 55 60

Gly Glu Ser Leu Leu Gly Lys Thr Asn Gln Asp Ala Met Glu Thr Leu  
65 70 75 80

Arg Arg Ser Met Ser Thr Glu Gly Asn Lys Arg Gly Met Ile Gln Leu  
85 90 95

Ile Val Ala Ser Arg Ile Ser Lys Cys Asn Glu Leu Lys Ser Asn Ser  
100 105 110

Ser

<210> 168

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 168

Ile Ser Asn Lys Asn Ala Lys Lys Ile Lys Ile Asp Leu Lys Lys Gly  
1 5 10 15

Pro Glu Gly Leu Gly Phe Thr Val Val Thr Arg Asp Ser Ser Ile His  
20 25 30

Gly Pro Gly Pro Ile Phe Val Lys Asn Ile Leu Pro Lys Gly Ala Ala  
35 40 45

Ile Lys Asp Gly Arg Leu Gln Ser Gly Asp Arg Ile Leu Glu Val Asn  
50 55 60

Gly Arg Asp Val Thr Gly Arg Thr Gln Glu Glu Leu Val Ala Met Leu  
65 70 75 80

Arg Ser Thr Lys Gln Gly Glu Thr Ala Ser Leu Val Ile Ala Arg Gln  
85 90 95

Glu Gly His

<210> 169  
<211> 106  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 169

Ile Thr Ser Glu Gln Leu Thr Phe Glu Ile Pro Leu Asn Asp Ser Gly  
1 5 10 15

Ser Ala Gly Leu Gly Val Ser Leu Lys Gly Asn Lys Ser Arg Glu Thr  
20 25 30

Gly Thr Asp Leu Gly Ile Phe Ile Lys Ser Ile Ile His Gly Gly Ala  
35 40 45

Ala Phe Lys Asp Gly Arg Leu Arg Met Asn Asp Gln Leu Ile Ala Val  
50 55 60

Asn Gly Glu Ser Leu Leu Gly Lys Ser Asn His Glu Ala Met Glu Thr  
65 70 75 80

Leu Arg Arg Ser Met Ser Met Glu Gly Asn Ile Arg Gly Met Ile Gln  
85 90 95

Leu Val Ile Leu Arg Arg Pro Glu Arg Pro  
100 105

<210> 170  
<211> 104  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 170

Ile Pro Arg Thr Lys Asp Thr Leu Ser Asp Met Thr Arg Thr Val Glu  
1 5 10 15

Ile Ser Gly Glu Gly Gly Pro Leu Gly Ile His Val Val Pro Phe Phe  
20 25 30

Ser Ser Leu Ser Gly Arg Ile Leu Gly Leu Phe Ile Arg Gly Ile Glu  
35 40 45

Asp Asn Ser Arg Ser Lys Arg Glu Gly Leu Phe His Glu Asn Glu Cys  
50 55 60

Ile Val Lys Ile Asn Asn Val Asp Leu Val Asp Lys Thr Phe Ala Gln  
65 70 75 80

Ala Gln Asp Val Phe Arg Gln Ala Met Lys Ser Pro Ser Val Leu Leu  
85 90 95

His Val Leu Pro Pro Gln Asn Arg  
100

<210> 171  
<211> 104  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 171

Pro Glu Thr His Arg Arg Val Arg Leu His Lys His Gly Ser Asp Arg  
1 5 10 15

Pro Leu Gly Phe Tyr Ile Arg Asp Gly Met Ser Val Arg Val Ala Pro  
20 25 30

Gln Gly Leu Glu Arg Val Pro Gly Ile Phe Ile Ser Arg Leu Val Arg  
35 40 45

Gly Gly Leu Ala Glu Ser Thr Gly Leu Leu Ala Val Ser Asp Glu Ile  
50 55 60

Leu Glu Val Asn Gly Ile Glu Val Ala Gly Lys Thr Leu Asp Gln Val  
65 70 75 80

Thr Asp Met Met Val Ala Asn Ser His Asn Leu Ile Val Thr Val Lys  
85 90 95

Pro Ala Asn Gln Arg Asn Asn Val  
100



<210> 172  
 <211> 120  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 172

Ile Pro Val Ser Ser Ile Ile Asp Val Asp Ile Leu Pro Glu Thr His  
 1 5 10 15

Arg Arg Val Arg Leu Tyr Lys Tyr Gly Thr Glu Lys Pro Leu Gly Phe  
 20 25 30

Tyr Ile Arg Asp Gly Ser Ser Val Arg Val Thr Pro His Gly Leu Glu  
 35 40 45

Lys Val Pro Gly Ile Phe Ile Ser Arg Leu Val Pro Gly Gly Leu Ala  
 50 55 60

Gln Ser Thr Gly Leu Leu Ala Val Asn Asp Glu Val Leu Glu Val Asn  
 65 70 75 80

Gly Ile Glu Val Ser Gly Lys Ser Leu Asp Gln Val Thr Asp Met Met  
 85 90 95

Ile Ala Asn Ser Arg Asn Leu Ile Ile Thr Val Arg Pro Ala Asn Gln  
 100 105 110

Arg Asn Asn Arg Ile His Arg Asp  
 115 120

<210> 173  
 <211> 111  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 173

Ile Asp Val Asp Leu Val Pro Glu Thr His Arg Arg Val Arg Leu His  
 1 5 10 15

Arg His Gly Cys Glu Lys Pro Leu Gly Phe Tyr Ile Arg Asp Gly Ala  
 20 25 30

Ser Val Arg Val Thr Pro His Gly Leu Glu Lys Val Pro Gly Ile Phe  
35 40 45

Ile Ser Arg Met Val Pro Gly Gly Leu Ala Glu Ser Thr Gly Leu Leu  
50 55 60

Ala Val Asn Asp Glu Val Leu Glu Val Asn Gly Ile Glu Val Ala Gly  
65 70 75 80

Lys Thr Leu Asp Gln Val Thr Asp Met Met Ile Ala Asn Ser His Asn  
85 90 95

Leu Ile Val Thr Val Lys Pro Ala Asn Gln Arg Asn Asn Val Val  
100 105 110

<210> 174  
<211> 103  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 174

Pro Glu Gln Ile Met Gly Lys Asp Val Arg Leu Leu Arg Ile Lys Lys  
1 5 10 15

Glu Gly Ser Leu Asp Leu Ala Leu Glu Gly Gly Val Asp Ser Pro Ile  
20 25 30

Gly Lys Val Val Val Ser Ala Val Tyr Glu Arg Gly Ala Ala Glu Arg  
35 40 45

His Gly Gly Ile Val Lys Gly Asp Glu Ile Met Ala Ile Asn Gly Lys  
50 55 60

Ile Val Thr Asp Tyr Thr Leu Ala Glu Ala Asp Ala Ala Leu Gln Lys  
65 70 75 80

Ala Trp Asn Gln Gly Gly Asp Trp Ile Asp Leu Val Val Ala Val Cys  
85 90 95

Pro Pro Lys Glu Tyr Asp Asp  
100

<210> 175

<211> 102  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 175

Ile Pro Gly Asn Arg Glu Asn Lys Glu Lys Lys Val Phe Ile Ser Leu  
1 5 10 15

Val Gly Ser Arg Gly Leu Gly Cys Ser Ile Ser Ser Gly Pro Ile Gln  
20 25 30

Lys Pro Gly Ile Phe Ile Ser His Val Lys Pro Gly Ser Leu Ser Ala  
35 40 45

Glu Val Gly Leu Glu Ile Gly Asp Gln Ile Val Glu Val Asn Gly Val  
50 55 60

Asp Phe Ser Asn Leu Asp His Lys Glu Ala Val Asn Val Leu Lys Ser  
65 70 75 80

Ser Arg Ser Leu Thr Ile Ser Ile Val Ala Ala Ala Gly Arg Glu Leu  
85 90 95

Phe Met Thr Asp Glu Phe  
100

<210> 176  
<211> 100  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 176

Arg Ser Arg Lys Leu Lys Glu Val Arg Leu Asp Arg Leu His Pro Glu  
1 5 10 15

Gly Leu Gly Leu Ser Val Arg Gly Gly Leu Glu Phe Gly Cys Gly Leu  
20 25 30

Phe Ile Ser His Leu Ile Lys Gly Gly Gln Ala Asp Ser Val Gly Leu  
35 40 45

Gln Val Gly Asp Glu Ile Val Arg Ile Asn Gly Tyr Ser Ile Ser Ser  
50 55 60

Cys Thr His Glu Glu Val Ile Asn Leu Ile Arg Thr Lys Lys Thr Val  
65 70 75 80

Ser Ile Lys Val Arg His Ile Gly Leu Ile Pro Val Lys Ser Ser Pro  
85 90 95

Asp Glu Phe His  
100

<210> 177  
<211> 92  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 177

Arg Leu Cys Tyr Leu Val Lys Glu Gly Gly Ser Tyr Gly Phe Ser Leu  
1 5 10 15

Lys Thr Val Gln Gly Lys Lys Gly Val Tyr Met Thr Asp Ile Thr Pro  
20 25 30

Gln Gly Val Ala Met Arg Ala Gly Val Leu Ala Asp Asp His Leu Ile  
35 40 45

Glu Val Asn Gly Glu Asn Val Glu Asp Ala Ser His Glu Glu Val Val  
50 55 60

Glu Lys Val Lys Lys Ser Gly Ser Arg Val Met Phe Leu Leu Val Asp  
65 70 75 80

Lys Glu Thr Asp Lys Arg Glu Phe Ile Val Thr Asp  
85 90

<210> 178  
<211> 112  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 178

Gln Phe Lys Arg Glu Thr Ala Ser Leu Lys Leu Leu Pro His Gln Pro  
1 5 10 15

Arg Ile Val Glu Met Lys Lys Gly Ser Asn Gly Tyr Gly Phe Tyr Leu  
20 25 30

Arg Ala Gly Ser Glu Gln Lys Gly Gln Ile Ile Lys Asp Ile Asp Ser  
35 40 45

Gly Ser Pro Ala Glu Glu Ala Gly Leu Lys Asn Asn Asp Leu Val Val  
50 55 60

Ala Val Asn Gly Glu Ser Val Glu Thr Leu Asp His Asp Ser Val Val  
65 70 75 80

Glu Met Ile Arg Lys Gly Gly Asp Gln Thr Ser Leu Leu Val Val Asp  
85 90 95

Lys Glu Thr Asp Asn Met Tyr Arg Leu Ala Glu Phe Ile Val Thr Asp  
100 105 110

<210> 179

<211> 324

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 179

Arg Leu Cys Tyr Leu Val Lys Glu Gly Gly Ser Tyr Gly Phe Ser Leu  
1 5 10 15

Lys Thr Val Gln Gly Lys Lys Gly Val Tyr Met Thr Asp Ile Thr Pro  
20 25 30

Gln Gly Val Ala Met Arg Ala Gly Val Leu Ala Asp Asp His Leu Ile  
35 40 45

Glu Val Asn Gly Glu Asn Val Glu Asp Ala Ser His Glu Lys Val Val  
50 55 60

Glu Lys Val Lys Lys Ser Gly Ser Arg Val Met Phe Leu Leu Val Asp  
65 70 75 80

Lys Glu Thr Asp Lys Arg His Val Glu Gln Lys Ile Gln Phe Lys Arg  
85 90 95

Glu Thr Ala Ser Leu Lys Leu Leu Pro His Gln Pro Arg Ile Val Glu

| 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Lys | Gly | Ser | Asn | Gly | Tyr | Gly | Phe | Tyr | Leu | Arg | Ala | Gly | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Gln | Lys | Gly | Gln | Ile | Ile | Lys | Asp | Ile | Asp | Ser | Gly | Ser | Pro | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Glu | Ala | Gly | Leu | Lys | Asn | Asn | Asp | Leu | Val | Val | Ala | Val | Asn | Gly |
| 145 |     |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |
| Glu | Ser | Val | Glu | Thr | Leu | Asp | His | Asp | Ser | Val | Val | Glu | Met | Ile | Arg |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Lys | Gly | Gly | Asp | Gln | Thr | Ser | Leu | Leu | Val | Val | Asp | Lys | Glu | Thr | Asp |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asn | Met | Tyr | Arg | Leu | Ala | His | Phe | Ser | Pro | Phe | Leu | Tyr | Tyr | Gln | Ser |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gln | Glu | Leu | Pro | Asn | Gly | Ser | Val | Lys | Glu | Ala | Pro | Ala | Pro | Thr | Pro |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Thr | Ser | Leu | Glu | Val | Ser | Ser | Pro | Pro | Asp | Thr | Thr | Glu | Glu | Val | Asp |
| 225 |     |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |
| His | Lys | Pro | Lys | Leu | Cys | Arg | Leu | Ala | Lys | Gly | Glu | Asn | Gly | Tyr | Gly |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Phe | His | Leu | Asn | Ala | Ile | Arg | Gly | Leu | Pro | Gly | Ser | Phe | Ile | Lys | Glu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Val | Gln | Lys | Gly | Gly | Pro | Ala | Asp | Leu | Ala | Gly | Leu | Glu | Asp | Glu | Asp |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Val | Ile | Ile | Glu | Val | Asn | Gly | Val | Asn | Val | Leu | Asp | Glu | Pro | Tyr | Glu |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Lys | Val | Val | Asp | Arg | Ile | Gln | Ser | Ser | Gly | Lys | Asn | Val | Thr | Leu | Leu |
| 305 |     |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |
| Val | Cys | Gly | Lys |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 180

<211> 94

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 180

Pro Asp Thr Thr Glu Glu Val Asp His Lys Pro Lys Leu Cys Arg Leu  
1 5 10 15

Ala Lys Gly Glu Asn Gly Tyr Gly Phe His Leu Asn Ala Ile Arg Gly  
20 25 30

Leu Pro Gly Ser Phe Ile Lys Glu Val Gln Lys Gly Gly Pro Ala Asp  
35 40 45

Leu Ala Gly Leu Glu Asp Glu Asp Val Ile Ile Glu Val Asn Gly Val  
50 55 60

Asn Val Leu Asp Glu Pro Tyr Glu Lys Val Val Asp Arg Ile Gln Ser  
65 70 75 80

Ser Gly Lys Asn Val Thr Leu Leu Val Gly Lys Asn Ser Ser  
85 90

<210> 181  
<211> 101  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 181

Leu Thr Ser Thr Phe Asn Pro Arg Glu Cys Lys Leu Ser Lys Gln Glu  
1 5 10 15

Gly Gln Asn Tyr Gly Phe Phe Leu Arg Ile Glu Lys Asp Thr Glu Gly  
20 25 30

His Leu Val Arg Val Val Glu Lys Cys Ser Pro Ala Glu Lys Ala Gly  
35 40 45

Leu Gln Asp Gly Asp Arg Val Leu Arg Ile Asn Gly Val Phe Val Asp  
50 55 60

Lys Glu Glu His Met Gln Val Val Asp Leu Val Arg Lys Ser Gly Asn  
65 70 75 80

Ser Val Thr Leu Leu Val Leu Asp Gly Asp Ser Tyr Glu Lys Ala Gly  
85 90 95

Ser His Glu Pro Ser  
100

<210> 182  
<211> 99  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 182

Leu Gly Ile Pro Thr Val Pro Gly Lys Val Thr Leu Gln Lys Asp Ala  
1 5 10 15

Gln Asn Leu Ile Gly Ile Ser Ile Gly Gly Gly Ala Gln Tyr Cys Pro  
20 25 30

Cys Leu Tyr Ile Val Gln Val Phe Asp Asn Thr Pro Ala Ala Leu Asp  
35 40 45

Gly Thr Val Ala Ala Gly Asp Glu Ile Thr Gly Val Asn Gly Arg Ser  
50 55 60

Ile Lys Gly Lys Thr Lys Val Glu Val Ala Lys Met Ile Gln Glu Val  
65 70 75 80

Lys Gly Glu Val Thr Ile His Tyr Asn Lys Leu Gln Ala Asp Pro Lys  
85 90 95

Gln Gly Met

<210> 183  
<211> 98  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 183

Ser Gln Gly Val Gly Pro Ile Arg Lys Val Leu Leu Leu Lys Glu Asp  
1 5 10 15



His Glu Gly Leu Gly Ile Ser Ile Thr Gly Gly Lys Glu His Gly Val  
20 25 30

Pro Ile Leu Ile Ser Glu Ile His Pro Gly Gln Pro Ala Asp Arg Cys  
35 40 45

Gly Gly Leu His Val Gly Asp Ala Ile Leu Ala Val Asn Gly Val Asn  
50 55 60

Leu Arg Asp Thr Lys His Lys Glu Ala Val Thr Ile Leu Ser Gln Gln  
65 70 75 80

Arg Gly Glu Ile Glu Phe Glu Val Val Tyr Val Ala Pro Glu Val Asp  
85 90 95

Ser Asp

<210> 184

<211> 98

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 184

Thr Ala Glu Ala Thr Val Cys Thr Val Thr Leu Glu Lys Met Ser Ala  
1 5 10 15

Gly Leu Gly Phe Ser Leu Glu Gly Gly Lys Gly Ser Leu His Gly Asp  
20 25 30

Lys Pro Leu Thr Ile Asn Arg Ile Phe Lys Gly Ala Ala Ser Glu Gln  
35 40 45

Ser Glu Thr Val Gln Pro Gly Asp Glu Ile Leu Gln Leu Gly Gly Thr  
50 55 60

Ala Met Gln Gly Leu Thr Arg Phe Glu Ala Trp Asn Ile Ile Lys Ala  
65 70 75 80

Leu Pro Asp Gly Pro Val Thr Ile Val Ile Arg Arg Lys Ser Leu Gln  
85 90 95

Ser Lys

<210> 185  
<211> 97  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 185

Ile His Val Thr Ile Leu His Lys Glu Glu Gly Ala Gly Leu Gly Phe  
1 5 10 15

Ser Leu Ala Gly Gly Ala Asp Leu Glu Asn Lys Val Ile Thr Val His  
20 25 30

Arg Val Phe Pro Asn Gly Leu Ala Ser Gln Glu Gly Thr Ile Gln Lys  
35 40 45

Gly Asn Glu Val Leu Ser Ile Asn Gly Lys Ser Leu Lys Gly Thr Thr  
50 55 60

His His Asp Ala Leu Ala Ile Leu Arg Gln Ala Arg Glu Pro Arg Gln  
65 70 75 80

Ala Val Ile Val Thr Arg Lys Leu Thr Pro Glu Glu Phe Ile Val Thr  
85 90 95

Asp

<210> 186  
<211> 214  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 186

Ile His Val Thr Ile Leu His Lys Glu Glu Gly Ala Gly Leu Gly Phe  
1 5 10 15

Ser Leu Ala Gly Gly Ala Asp Leu Glu Asn Lys Val Ile Thr Val His  
20 25 30

Arg Val Phe Pro Asn Gly Leu Ala Ser Gln Glu Gly Thr Ile Gln Lys  
35 40 45

Gly Asn Glu Val Leu Ser Ile Asn Gly Lys Ser Leu Lys Gly Thr Thr  
50 55 60

His His Asp Ala Leu Ala Ile Leu Arg Gln Ala Arg Glu Pro Arg Gln  
65 70 75 80

Ala Val Ile Val Thr Arg Lys Leu Thr Pro Glu Ala Met Pro Asp Leu  
85 90 95

Asn Ser Ser Thr Asp Ser Ala Ala Ser Ala Ser Ala Ala Ser Asp Val  
100 105 110

Ser Val Glu Ser Thr Ala Glu Ala Thr Val Cys Thr Val Thr Leu Glu  
115 120 125

Lys Met Ser Ala Gly Leu Gly Phe Ser Leu Glu Gly Gly Lys Gly Ser  
130 135 140

Leu His Gly Asp Lys Pro Leu Thr Ile Asn Arg Ile Phe Lys Gly Ala  
145 150 155 160

Ala Ser Glu Gln Ser Glu Thr Val Gln Pro Gly Asp Glu Ile Leu Gln  
165 170 175

Leu Gly Gly Thr Ala Met Gln Gly Leu Thr Arg Phe Glu Ala Trp Asn  
180 185 190

Ile Ile Lys Ala Leu Pro Asp Gly Pro Val Thr Ile Val Ile Arg Arg  
195 200 205

Lys Ser Leu Gln Ser Lys  
210

<210> 187  
<211> 162  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 187

Ile Arg Glu Ala Lys Tyr Ser Gly Val Leu Ser Ser Ile Gly Lys Ile  
1 5 10 15

Phe Lys Glu Glu Gly Leu Leu Gly Phe Phe Val Gly Leu Ile Pro His  
20 25 30

Leu Leu Gly Asp Val Val Phe Leu Trp Gly Cys Asn Leu Leu Ala His  
35 40 45

Phe Ile Asn Ala Tyr Leu Val Asp Asp Ser Val Ser Asp Thr Pro Gly  
50 55 60

Gly Leu Gly Asn Asp Gln Asn Pro Gly Ser Gln Phe Ser Gln Ala Leu  
65 70 75 80

Ala Ile Arg Ser Tyr Thr Lys Phe Val Met Gly Ile Ala Val Ser Met  
85 90 95

Leu Thr Tyr Pro Phe Leu Leu Val Gly Asp Leu Met Ala Val Asn Asn  
100 105 110

Cys Gly Leu Gln Ala Gly Leu Pro Pro Tyr Ser Pro Val Phe Lys Ser  
115 120 125

Trp Ile His Cys Trp Lys Tyr Leu Ser Val Gln Gly Gln Leu Phe Arg  
130 135 140

Gly Ser Ser Leu Leu Phe Arg Arg Val Ser Ser Gly Ser Cys Phe Ala  
145 150 155 160

Leu Glu

<210> 188

<211> 338

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 188

Glu Gly Glu Met Glu Tyr Glu Glu Ile Thr Leu Glu Arg Gly Asn Ser  
1 5 10 15

Gly Leu Gly Phe Ser Ile Ala Gly Gly Thr Asp Asn Pro His Ile Gly  
20 25 30

Asp Asp Pro Ser Ile Phe Ile Thr Lys Ile Ile Pro Gly Gly Ala Ala  
35 40 45

Ala Gln Asp Gly Arg Leu Arg Val Asn Asp Ser Ile Leu Phe Val Asn  
 50 55 60

Glu Val Asp Val Arg Glu Val Thr His Ser Ala Ala Val Glu Ala Leu  
 65 70 75 80

Lys Glu Ala Gly Ser Ile Val Arg Leu Tyr Val Met Arg Arg Lys Pro  
 85 90 95

Pro Ala Glu Lys Val Met Glu Ile Lys Leu Ile Lys Gly Pro Lys Gly  
 100 105 110

Leu Gly Phe Ser Ile Ala Gly Gly Val Gly Asn Gln His Ile Pro Gly  
 115 120 125

Asp Asn Ser Ile Tyr Val Thr Lys Ile Ile Glu Gly Gly Ala Ala His  
 130 135 140

Lys Asp Gly Arg Leu Gln Ile Gly Asp Lys Ile Leu Ala Val Asn Ser  
 145 150 155 160

Val Gly Leu Glu Asp Val Met His Glu Asp Ala Val Ala Ala Leu Lys  
 165 170 175

Asn Thr Tyr Asp Val Val Tyr Leu Lys Val Ala Lys Pro Ser Asn Ala  
 180 185 190

Tyr Leu Ser Asp Ser Tyr Ala Pro Pro Asp Ile Thr Thr Ser Tyr Ser  
 195 200 205

Gln His Leu Asp Asn Glu Ile Ser His Ser Ser Tyr Leu Gly Thr Asp  
 210 215 220

Tyr Pro Thr Ala Met Thr Pro Thr Ser Pro Arg Arg Tyr Ser Pro Val  
 225 230 235 240

Ala Lys Asp Leu Leu Gly Glu Glu Asp Ile Pro Arg Glu Pro Arg Arg  
 245 250 255

Ile Val Ile His Arg Gly Ser Thr Gly Leu Gly Phe Asn Ile Val Gly  
 260 265 270

Gly Glu Asp Gly Glu Gly Ile Phe Ile Ser Phe Ile Leu Ala Gly Gly  
 275 280 285

Pro Ala Asp Leu Ser Gly Glu Leu Arg Lys Gly Asp Gln Ile Leu Ser

290

295

300

Val Asn Gly Val Asp Leu Arg Asn Ala Ser His Glu Gln Ala Ala Ile  
 305 310 315 320

Ala Leu Lys Asn Ala Gly Gln Thr Val Thr Ile Ile Ala Gln Tyr Lys  
 325 330 335

Pro Glu

<210> 189  
 <211> 105  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 189

His Val Met Arg Arg Lys Pro Pro Ala Glu Lys Val Met Glu Ile Lys  
 1 5 10 15

Leu Ile Lys Gly Pro Lys Gly Leu Gly Phe Ser Ile Ala Gly Gly Val  
 20 25 30

Gly Asn Gln His Ile Pro Gly Asp Asn Ser Ile Tyr Val Thr Lys Ile  
 35 40 45

Ile Glu Gly Gly Ala Ala His Lys Asp Gly Arg Leu Gln Ile Gly Asp  
 50 55 60

Lys Ile Leu Ala Val Asn Ser Val Gly Leu Glu Asp Val Met His Glu  
 65 70 75 80

Asp Ala Val Ala Ala Leu Lys Asn Thr Tyr Asp Val Val Tyr Leu Lys  
 85 90 95

Val Ala Lys Pro Ser Asn Ala Tyr Leu  
 100 105

<210> 190  
 <211> 97  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 190

Arg Glu Asp Ile Pro Arg Glu Pro Arg Arg Ile Val Ile His Arg Gly  
1 5 10 15

Ser Thr Gly Leu Gly Phe Asn Ile Val Gly Gly Glu Asp Gly Glu Gly  
20 25 30

Ile Phe Ile Ser Phe Ile Leu Ala Gly Gly Pro Ala Asp Leu Ser Gly  
35 40 45

Glu Leu Arg Lys Gly Asp Gln Ile Leu Ser Val Asn Gly Val Asp Leu  
50 55 60

Arg Asn Ala Ser His Glu Gln Ala Ala Ile Ala Leu Lys Asn Ala Gly  
65 70 75 80

Gln Thr Val Thr Ile Ile Ala Gln Tyr Lys Pro Glu Phe Ile Val Thr  
85 90 95

Asp

<210> 191

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 191

Leu Glu Tyr Glu Glu Ile Thr Leu Glu Arg Gly Asn Ser Gly Leu Gly  
1 5 10 15

Phe Ser Ile Ala Gly Gly Thr Asp Asn Pro His Ile Gly Asp Asp Pro  
20 25 30

Ser Ile Phe Ile Thr Lys Ile Ile Pro Gly Gly Ala Ala Ala Gln Asp  
35 40 45

Gly Arg Leu Arg Val Asn Asp Ser Ile Leu Phe Val Asn Glu Val Asp  
50 55 60

Val Arg Glu Val Thr His Ser Ala Ala Val Glu Ala Leu Lys Glu Ala  
65 70 75 80

Gly Ser Ile Val Arg Leu Tyr Val Met Arg Arg Lys Pro Pro Ala Glu  
85 90 95

Asn Ser Ser

<210> 192  
<211> 88  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 192

Arg Asp Met Ala Glu Ala His Lys Glu Ala Met Ser Arg Lys Leu Gly  
1 5 10 15

Gln Ser Glu Ser Gln Gly Pro Pro Arg Ala Phe Ala Lys Val Asn Ser  
20 25 30

Ile Ser Pro Gly Ser Pro Ala Ser Ile Ala Gly Leu Gln Val Asp Asp  
35 40 45

Glu Ile Val Glu Phe Gly Ser Val Asn Thr Gln Asn Phe Gln Ser Leu  
50 55 60

His Asn Ile Gly Ser Val Val Gln His Ser Glu Gly Ala Leu Ala Pro  
65 70 75 80

Thr Ile Leu Leu Ser Val Ser Met  
85

<210> 193  
<211> 102  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 193

Gln Asn Asp Asn Gly Asp Ser Tyr Leu Val Leu Ile Arg Ile Thr Pro  
1 5 10 15

Asp Glu Asp Gly Lys Phe Gly Phe Asn Leu Lys Gly Gly Val Asp Gln  
20 25 30

Lys Met Pro Leu Val Val Ser Arg Ile Asn Pro Glu Ser Pro Ala Asp



35

40

45

Thr Cys Ile Pro Lys Leu Asn Glu Gly Asp Gln Ile Val Leu Ile Asn  
50 55 60

Gly Arg Asp Ile Ser Glu His Thr His Asp Gln Val Val Met Phe Ile  
65 70 75 80

Lys Ala Ser Arg Glu Ser His Ser Arg Glu Leu Ala Leu Val Ile Arg  
85 90 95

Arg Arg Ala Val Arg Ser  
100

<210> 194

<211> 88

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 194

Ile Arg Met Lys Pro Asp Glu Asn Gly Arg Phe Gly Phe Asn Val Lys  
1 5 10 15

Gly Gly Tyr Asp Gln Lys Met Pro Val Ile Val Ser Arg Val Ala Pro  
20 25 30

Gly Thr Pro Ala Asp Leu Cys Val Pro Arg Leu Asn Glu Gly Asp Gln  
35 40 45

Val Val Leu Ile Asn Gly Arg Asp Ile Ala Glu His Thr His Asp Gln  
50 55 60

Val Val Leu Phe Ile Lys Ala Ser Cys Glu Arg His Ser Gly Glu Leu  
65 70 75 80

Met Leu Leu Val Arg Pro Asn Ala  
85

<210> 195

<211> 95

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 195

Gly Asp Ile Phe Glu Val Glu Leu Ala Lys Asn Asp Asn Ser Leu Gly  
1 5 10 15

Ile Ser Val Thr Gly Gly Val Asn Thr Ser Val Arg His Gly Gly Ile  
20 25 30

Tyr Val Lys Ala Val Ile Pro Gln Gly Ala Ala Glu Ser Asp Gly Arg  
35 40 45

Ile His Lys Gly Asp Arg Val Leu Ala Val Asn Gly Val Ser Leu Glu  
50 55 60

Gly Ala Thr His Lys Gln Ala Val Glu Thr Leu Arg Asn Thr Gly Gln  
65 70 75 80

Val Val His Leu Leu Leu Glu Lys Gly Gln Ser Pro Thr Ser Lys  
85 90 95

<210> 196

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 196

Pro Glu Arg Glu Ile Thr Leu Val Asn Leu Lys Lys Asp Ala Lys Tyr  
1 5 10 15

Gly Leu Gly Phe Gln Ile Ile Gly Gly Glu Lys Met Gly Arg Leu Asp  
20 25 30

Leu Gly Ile Phe Ile Ser Ser Val Ala Pro Gly Gly Pro Ala Asp Phe  
35 40 45

His Gly Cys Leu Lys Pro Gly Asp Arg Leu Ile Ser Val Asn Ser Val  
50 55 60

Ser Leu Glu Gly Val Ser His His Ala Ala Ile Glu Ile Leu Gln Asn  
65 70 75 80

Ala Pro Glu Asp Val Thr Leu Val Ile Ser Gln Pro Lys Glu Lys Ile  
85 90 95

Ser Lys Val Pro Ser Thr Pro Val His Leu

100

105

<210> 197  
 <211> 98  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 197

Glu Leu Glu Val Glu Leu Leu Ile Thr Leu Ile Lys Ser Glu Lys Ala  
 1 5 10 15

Ser Leu Gly Phe Thr Val Thr Lys Gly Asn Gln Arg Ile Gly Cys Tyr  
 20 25 30

Val His Asp Val Ile Gln Asp Pro Ala Lys Ser Asp Gly Arg Leu Lys  
 35 40 45

Pro Gly Asp Arg Leu Ile Lys Val Asn Asp Thr Asp Val Thr Asn Met  
 50 55 60

Thr His Thr Asp Ala Val Asn Leu Leu Arg Ala Ala Ser Lys Thr Val  
 65 70 75 80

Arg Leu Val Ile Gly Arg Val Leu Glu Leu Pro Arg Ile Pro Met Leu  
 85 90 95

Pro His

<210> 198  
 <211> 104  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 198

Thr Glu Glu Asn Thr Phe Glu Val Lys Leu Phe Lys Asn Ser Ser Gly  
 1 5 10 15

Leu Gly Phe Ser Phe Ser Arg Glu Asp Asn Leu Ile Pro Glu Gln Ile  
 20 25 30

Asn Ala Ser Ile Val Arg Val Lys Lys Leu Phe Ala Gly Gln Pro Ala  
 35 40 45

Ala Glu Ser Gly Lys Ile Asp Val Gly Asp Val Ile Leu Lys Val Asn  
 50 55 60

Gly Ala Ser Leu Lys Gly Leu Ser Gln Gln Glu Val Ile Ser Ala Leu  
 65 70 75 80

Arg Gly Thr Ala Pro Glu Val Phe Leu Leu Leu Cys Arg Pro Pro Pro  
 85 90 95

Gly Val Leu Pro Glu Ile Asp Thr  
 100

<210> 199  
 <211> 94  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 199

Met Leu Pro His Leu Leu Pro Asp Ile Thr Leu Thr Cys Asn Lys Glu  
 1 5 10 15

Glu Leu Gly Phe Ser Leu Cys Gly Gly His Asp Ser Leu Tyr Gln Val  
 20 25 30

Val Tyr Ile Ser Asp Ile Asn Pro Arg Ser Val Ala Ala Ile Glu Gly  
 35 40 45

Asn Leu Gln Leu Leu Asp Val Ile His Tyr Val Asn Gly Val Ser Thr  
 50 55 60

Gln Gly Met Thr Leu Glu Glu Val Asn Arg Ala Leu Asp Met Ser Leu  
 65 70 75 80

Pro Ser Leu Val Leu Lys Ala Thr Arg Asn Asp Leu Pro Val  
 85 90

<210> 200  
 <211> 92  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 200

Val Cys Ser Glu Arg Arg Tyr Arg Gln Ile Thr Ile Pro Arg Gly Lys  
 1 5 10 15

Asp Gly Phe Gly Phe Thr Ile Cys Cys Asp Ser Pro Val Arg Val Gln  
 20 25 30

Ala Val Asp Ser Gly Gly Pro Ala Glu Arg Ala Gly Leu Gln Gln Leu  
 35 40 45

Asp Thr Val Leu Gln Leu Asn Glu Arg Pro Val Glu His Trp Lys Cys  
 50 55 60

Val Glu Leu Ala His Glu Ile Arg Ser Cys Pro Ser Glu Ile Ile Leu  
 65 70 75 80

Leu Val Trp Arg Met Val Pro Gln Val Lys Pro Gly  
 85 90

<210> 201  
 <211> 93  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 201

Arg Pro Ser Pro Pro Arg Val Arg Ser Val Glu Val Ala Arg Gly Arg  
 1 5 10 15

Ala Gly Tyr Gly Phe Thr Leu Ser Gly Gln Ala Pro Cys Val Leu Ser  
 20 25 30

Cys Val Met Arg Gly Ser Pro Ala Asp Phe Val Gly Leu Arg Ala Gly  
 35 40 45

Asp Gln Ile Leu Ala Val Asn Glu Ile Asn Val Lys Lys Ala Ser His  
 50 55 60

Glu Asp Val Val Lys Leu Ile Gly Lys Cys Ser Gly Val Leu His Met  
 65 70 75 80

Val Ile Ala Glu Gly Val Gly Arg Phe Glu Ser Cys Ser  
 85 90

<210> 202  
 <211> 124

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 202

Ser Glu Asp Glu Thr Phe Ser Trp Pro Gly Pro Lys Thr Val Thr Leu  
1 5 10 15

Lys Arg Thr Ser Gln Gly Phe Gly Phe Thr Leu Arg His Phe Ile Val  
20 25 30

Tyr Pro Pro Glu Ser Ala Ile Gln Phe Ser Tyr Lys Asp Glu Glu Asn  
35 40 45

Gly Asn Arg Gly Gly Lys Gln Arg Asn Arg Leu Glu Pro Met Asp Thr  
50 55 60

Ile Phe Val Lys Gln Val Lys Glu Gly Gly Pro Ala Phe Glu Ala Gly  
65 70 75 80

Leu Cys Thr Gly Asp Arg Ile Ile Lys Val Asn Gly Glu Ser Val Ile  
85 90 95

Gly Lys Thr Tyr Ser Gln Val Ile Ala Leu Ile Gln Asn Ser Asp Thr  
100 105 110

Thr Leu Glu Leu Ser Val Met Pro Lys Asp Glu Asp  
115 120

<210> 203  
<211> 96  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 203

Ser Ala Lys Asn Arg Trp Arg Leu Val Gly Pro Val His Leu Thr Arg  
1 5 10 15

Gly Glu Gly Gly Phe Gly Leu Thr Leu Arg Gly Asp Ser Pro Val Leu  
20 25 30

Ile Ala Ala Val Ile Pro Gly Ser Gln Ala Ala Ala Ala Gly Leu Lys  
35 40 45

Glu Gly Asp Tyr Ile Val Ser Val Asn Gly Gln Pro Cys Arg Trp Trp  
 50 55 60

Arg His Ala Glu Val Val Thr Glu Leu Lys Ala Ala Gly Glu Ala Gly  
 65 70 75 80

Ala Ser Leu Gln Val Val Ser Leu Leu Pro Ser Ser Arg Leu Pro Ser  
 85 90 95

<210> 204  
 <211> 104  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 204

Ile Ser Phe Ser Ala Asn Lys Arg Trp Thr Pro Pro Arg Ser Ile Arg  
 1 5 10 15

Phe Thr Ala Glu Glu Gly Asp Leu Gly Phe Thr Leu Arg Gly Asn Ala  
 20 25 30

Pro Val Gln Val His Phe Leu Asp Pro Tyr Cys Ser Ala Ser Val Ala  
 35 40 45

Gly Ala Arg Glu Gly Asp Tyr Ile Val Ser Ile Gln Leu Val Asp Cys  
 50 55 60

Lys Trp Leu Thr Leu Ser Glu Val Met Lys Leu Leu Lys Ser Phe Gly  
 65 70 75 80

Glu Asp Glu Ile Glu Met Lys Val Val Ser Leu Leu Asp Ser Thr Ser  
 85 90 95

Ser Met His Asn Lys Ser Ala Thr  
 100

<210> 205  
 <211> 126  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 205

Thr Leu Asn Glu Glu His Ser His Ser Asp Lys His Pro Val Thr Trp  
 1 5 10 15

Gln Pro Ser Lys Asp Gly Asp Arg Leu Ile Gly Arg Ile Leu Leu Asn  
 20 25 30

Lys Arg Leu Lys Asp Gly Ser Val Pro Arg Asp Ser Gly Ala Met Leu  
 35 40 45

Gly Leu Lys Val Val Gly Gly Lys Met Thr Glu Ser Gly Arg Leu Cys  
 50 55 60

Ala Phe Ile Thr Lys Val Lys Lys Gly Ser Leu Ala Asp Thr Val Gly  
 65 70 75 80

His Leu Arg Pro Gly Asp Glu Val Leu Glu Trp Asn Gly Arg Leu Leu  
 85 90 95

Gln Gly Ala Thr Phe Glu Glu Val Tyr Asn Ile Ile Leu Glu Ser Lys  
 100 105 110

Pro Glu Pro Gln Val Glu Leu Val Val Ser Arg Pro Ile Gly  
 115 120 125

<210> 206  
 <211> 101  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 206

Gln Glu Met Asp Arg Glu Glu Leu Glu Leu Glu Glu Val Asp Leu Tyr  
 1 5 10 15

Arg Met Asn Ser Gln Asp Lys Leu Gly Leu Thr Val Cys Tyr Arg Thr  
 20 25 30

Asp Asp Glu Asp Asp Ile Gly Ile Tyr Ile Ser Glu Ile Asp Pro Asn  
 35 40 45

Ser Ile Ala Ala Lys Asp Gly Arg Ile Arg Glu Gly Asp Arg Ile Ile  
 50 55 60

Gln Ile Asn Gly Ile Glu Val Gln Asn Arg Glu Glu Ala Val Ala Leu





Ser Glu Asp Ser Leu Gly Leu Thr Ile Thr Asp Asn Gly Val Gly Tyr  
20 25 30

Ala Phe Ile Lys Arg Ile Lys Asp Gly Gly Val Ile Asp Ser Val Lys  
35 40 45

Thr Ile Cys Val Gly Asp His Ile Glu Ser Ile Asn Gly Glu Asn Ile  
50 55 60

Val Gly Trp Arg His Tyr Asp Val Ala Lys Lys Leu Lys Glu Leu Lys  
65 70 75 80

Lys Glu Glu Leu Phe Thr Met Lys Leu Ile Glu Pro Lys Lys Ala Phe  
85 90 95

Glu Ile

<210> 209  
<211> 109  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 209

Arg Gly Glu Lys Lys Asn Ser Ser Ser Gly Ile Ser Gly Ser Gln Arg  
1 5 10 15

Arg Tyr Ile Gly Val Met Met Leu Thr Leu Ser Pro Ser Ile Leu Ala  
20 25 30

Glu Leu Gln Leu Arg Glu Pro Ser Phe Pro Asp Val Gln His Gly Val  
35 40 45

Leu Ile His Lys Val Ile Leu Gly Ser Pro Ala His Arg Ala Gly Leu  
50 55 60

Arg Pro Gly Asp Val Ile Leu Ala Ile Gly Glu Gln Met Val Gln Asn  
65 70 75 80

Ala Glu Asp Val Tyr Glu Ala Val Arg Thr Gln Ser Gln Leu Ala Val  
85 90 95

Gln Ile Arg Arg Gly Arg Glu Thr Leu Thr Leu Tyr Val

100

105

<210> 210  
 <211> 110  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 210

Ile Leu Glu Glu Lys Thr Val Val Leu Gln Lys Lys Asp Asn Glu Gly  
 1 5 10 15

Phe Gly Phe Val Leu Arg Gly Ala Lys Ala Asp Thr Pro Ile Glu Glu  
 20 25 30

Phe Thr Pro Thr Pro Ala Phe Pro Ala Leu Gln Tyr Leu Glu Ser Val  
 35 40 45

Asp Glu Gly Gly Val Ala Trp Gln Ala Gly Leu Arg Thr Gly Asp Phe  
 50 55 60

Leu Ile Glu Val Asn Asn Glu Asn Val Val Lys Val Gly His Arg Gln  
 65 70 75 80

Val Val Asn Met Ile Arg Gln Gly Gly Asn His Leu Val Leu Lys Val  
 85 90 95

Val Thr Val Thr Arg Asn Leu Asp Pro Asp Asp Asn Ser Ser  
 100 105 110

<210> 211  
 <211> 113  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 211

Ile Leu Lys Glu Lys Thr Val Leu Leu Gln Lys Lys Asp Ser Glu Gly  
 1 5 10 15

Phe Gly Phe Val Leu Arg Gly Ala Lys Ala Gln Thr Pro Ile Glu Glu  
 20 25 30

Phe Thr Pro Thr Pro Ala Phe Pro Ala Leu Gln Tyr Leu Glu Ser Val  
 35 40 45

Asp Glu Gly Gly Val Ala Trp Arg Ala Gly Leu Arg Met Gly Asp Phe  
 50 55 60

Leu Ile Glu Val Asn Gly Gln Asn Val Val Lys Val Gly His Arg Gln  
 65 70 75 80

Val Val Asn Met Ile Arg Gln Gly Gly Asn Thr Leu Met Val Lys Val  
 85 90 95

Val Met Val Thr Arg His Pro Asp Met Asp Glu Ala Val Gln Asn Ser  
 100 105 110

Ser

<210> 212  
 <211> 110  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 212

Ser Asp Tyr Val Ile Asp Asp Lys Val Ala Val Leu Gln Lys Arg Asp  
 1 5 10 15

His Glu Gly Phe Gly Phe Val Leu Arg Gly Ala Lys Ala Glu Thr Pro  
 20 25 30

Ile Glu Glu Phe Thr Pro Thr Pro Ala Phe Pro Ala Leu Gln Tyr Leu  
 35 40 45

Glu Ser Val Asp Val Glu Gly Val Ala Trp Arg Ala Gly Leu Arg Thr  
 50 55 60

Gly Asp Phe Leu Ile Glu Val Asn Gly Val Asn Val Val Lys Val Gly  
 65 70 75 80

His Lys Gln Val Val Ala Leu Ile Arg Gln Gly Gly Asn Arg Leu Val  
 85 90 95

Met Lys Val Val Ser Val Thr Arg Lys Pro Glu Glu Asp Gly  
 100 105 110

<210> 213

<211> 98  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 213

Ser Asn Ser Pro Arg Glu Glu Ile Phe Gln Val Ala Leu His Lys Arg  
1 5 10 15

Asp Ser Gly Glu Gln Leu Gly Ile Lys Leu Val Arg Arg Thr Asp Glu  
20 25 30

Pro Gly Val Phe Ile Leu Asp Leu Leu Glu Gly Gly Leu Ala Ala Gln  
35 40 45

Asp Gly Arg Leu Ser Ser Asn Asp Arg Val Leu Ala Ile Asn Gly His  
50 55 60

Asp Leu Lys Tyr Gly Thr Pro Glu Leu Ala Ala Gln Ile Ile Gln Ala  
65 70 75 80.

Ser Gly Glu Arg Val Asn Leu Thr Ile Ala Arg Pro Gly Lys Pro Gln  
85 90 95

Pro Gly

<210> 214  
<211> 104  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 214

Ile Gln Cys Val Thr Cys Gln Glu Lys His Ile Thr Val Lys Lys Glu  
1 5 10 15

Pro His Glu Ser Leu Gly Met Thr Val Ala Gly Gly Arg Gly Ser Lys  
20 25 30

Ser Gly Glu Leu Pro Ile Phe Val Thr Ser Val Pro Pro His Gly Cys  
35 40 45

Leu Ala Arg Asp Gly Arg Ile Lys Arg Gly Asp Val Leu Leu Asn Ile  
50 55 60

Asn Gly Ile Asp Leu Thr Asn Leu Ser His Ser Glu Ala Val Ala Met  
 65 70 75 80

Leu Lys Ala Ser Ala Ala Ser Pro Ala Val Ala Leu Lys Ala Leu Glu  
 85 90 95

Val Gln Ile Val Glu Glu Ala Thr  
 100

<210> 215  
 <211> 110  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 215

Met Gly Leu Gly Val Ser Ala Glu Gln Pro Ala Gly Gly Ala Glu Gly  
 1 5 10 15

Phe His Leu His Gly Val Gln Glu Asn Ser Pro Ala Gln Gln Ala Gly  
 20 25 30

Leu Glu Pro Tyr Phe Asp Phe Ile Ile Thr Ile Gly His Ser Arg Leu  
 35 40 45

Asn Lys Glu Asn Asp Thr Leu Lys Ala Leu Leu Lys Ala Asn Val Glu  
 50 55 60

Lys Pro Val Lys Leu Glu Val Phe Asn Met Lys Thr Met Arg Val Arg  
 65 70 75 80

Glu Val Glu Val Val Pro Ser Asn Met Trp Gly Gly Gln Gly Leu Leu  
 85 90 95

Gly Ala Ser Val Arg Phe Cys Ser Phe Arg Arg Ala Ser Glu  
 100 105 110

<210> 216  
 <211> 109  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 216

Arg Ala Ser Glu Gln Val Trp His Val Leu Asp Val Glu Pro Ser Ser  
1 5 10 15

Pro Ala Ala Leu Ala Gly Leu Arg Pro Tyr Thr Asp Tyr Val Val Gly  
20 25 30

Ser Asp Gln Ile Leu Gln Glu Ser Glu Asp Phe Phe Thr Leu Ile Glu  
35 40 45

Ser His Glu Gly Lys Pro Leu Lys Leu Met Val Tyr Asn Ser Lys Ser  
50 55 60

Asp Ser Cys Arg Glu Ser Gly Met Trp His Trp Leu Trp Val Ser Thr  
65 70 75 80

Pro Asp Pro Asn Ser Ala Pro Gln Leu Pro Gln Glu Ala Thr Trp His  
85 90 95

Pro Thr Thr Phe Cys Ser Thr Thr Trp Cys Pro Thr Thr  
100 105

<210> 217

<211> 101

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 217

Ile Ser Val Thr Asp Gly Pro Lys Phe Glu Val Lys Leu Lys Lys Asn  
1 5 10 15

Ala Asn Gly Leu Gly Phe Ser Phe Val Gln Met Glu Lys Glu Ser Cys  
20 25 30

Ser His Leu Lys Ser Asp Leu Val Arg Ile Lys Arg Leu Phe Pro Gly  
35 40 45

Gln Pro Ala Glu Glu Asn Gly Ala Ile Ala Ala Gly Asp Ile Ile Leu  
50 55 60

Ala Val Asn Gly Arg Ser Thr Glu Gly Leu Ile Phe Gln Glu Val Leu  
65 70 75 80

His Leu Leu Arg Gly Ala Pro Gln Glu Val Thr Leu Leu Leu Cys Arg  
85 90 95

Pro Pro Pro Gly Ala  
100

<210> 218  
<211> 100  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 218

Gln Pro Glu Pro Leu Arg Pro Arg Leu Cys Arg Leu Val Arg Gly Glu  
1 5 10 15

Gln Gly Tyr Gly Phe His Leu His Gly Glu Lys Gly Arg Arg Gly Gln  
20 25 30

Phe Ile Arg Arg Val Glu Pro Gly Ser Pro Ala Glu Ala Ala Ala Leu  
35 40 45

Arg Ala Gly Asp Arg Leu Val Glu Val Asn Gly Val Asn Val Glu Gly  
50 55 60

Glu Thr His His Gln Val Val Gln Arg Ile Lys Ala Val Glu Gly Gln  
65 70 75 80

Thr Arg Leu Leu Val Val Asp Gln Glu Thr Asp Glu Glu Leu Arg Arg  
85 90 95

Arg Asn Ser Ser  
100

<210> 219  
<211> 99  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 219

Pro Leu Arg Glu Leu Arg Pro Arg Leu Cys His Leu Arg Lys Gly Pro  
1 5 10 15

Gln Gly Tyr Gly Phe Asn Leu His Ser Asp Lys Ser Arg Pro Gly Gln  
20 25 30



Tyr Ile Arg Ser Val Asp Pro Gly Ser Pro Ala Ala Arg Ser Gly Leu  
35 40 45

Arg Ala Gln Asp Arg Leu Ile Glu Val Asn Gly Gln Asn Val Glu Gly  
50 55 60

Leu Arg His Ala Glu Val Val Ala Ser Ile Lys Ala Arg Glu Asp Glu  
65 70 75 80

Ala Arg Leu Leu Val Val Asp Pro Glu Thr Asp Glu His Phe Lys Arg  
85 90 95

Asn Ser Ser

<210> 220  
<211> 92  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 220

Pro Gly Val Arg Glu Ile His Leu Cys Lys Asp Glu Arg Gly Lys Thr  
1 5 10 15

Gly Leu Arg Leu Arg Lys Val Asp Gln Gly Leu Phe Val Gln Leu Val  
20 25 30

Gln Ala Asn Thr Pro Ala Ser Leu Val Gly Leu Arg Phe Gly Asp Gln  
35 40 45

Leu Leu Gln Ile Asp Gly Arg Asp Cys Ala Gly Trp Ser Ser His Lys  
50 55 60

Ala His Gln Val Val Lys Lys Ala Ser Gly Asp Lys Ile Val Val Val  
65 70 75 80

Val Arg Asp Arg Pro Phe Gln Arg Thr Val Thr Met  
85 90

<210> 221  
<211> 90  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 221

Pro Phe Gln Arg Thr Val Thr Met His Lys Asp Ser Met Gly His Val  
1 5 10 15

Gly Phe Val Ile Lys Lys Gly Lys Ile Val Ser Leu Val Lys Gly Ser  
20 25 30

Ser Ala Ala Arg Asn Gly Leu Leu Thr Asn His Tyr Val Cys Glu Val  
35 40 45

Asp Gly Gln Asn Val Ile Gly Leu Lys Asp Lys Lys Ile Met Glu Ile  
50 55 60

Leu Ala Thr Ala Gly Asn Val Val Thr Leu Thr Ile Ile Pro Ser Val  
65 70 75 80

Ile Tyr Glu His Ile Val Glu Phe Ile Val  
85 90

<210> 222

<211> 96

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 222

Ser Leu Glu Arg Pro Arg Phe Cys Leu Leu Ser Lys Glu Glu Gly Lys  
1 5 10 15

Ser Phe Gly Phe His Leu Gln Gln Glu Leu Gly Arg Ala Gly His Val  
20 25 30

Val Cys Arg Val Asp Pro Gly Thr Ser Ala Gln Arg Gln Gly Leu Gln  
35 40 45

Glu Gly Asp Arg Ile Leu Ala Val Asn Asn Asp Val Val Glu His Glu  
50 55 60

Asp Tyr Ala Val Val Val Arg Arg Ile Arg Ala Ser Ser Pro Arg Val  
65 70 75 80

Leu Leu Thr Val Leu Ala Arg His Ala His Asp Val Ala Arg Ala Gln  
85 90 95

<210> 223  
 <211> 92  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide  
 <400> 223

Leu Arg Asp Arg Pro Phe Glu Arg Thr Ile Thr Met His Lys Asp Ser  
 1 5 10 15

Thr Gly His Val Gly Phe Ile Phe Lys Asn Gly Lys Ile Thr Ser Ile  
 20 25 30

Val Lys Asp Ser Ser Ala Ala Arg Asn Gly Leu Leu Thr Glu His Asn  
 35 40 45

Ile Cys Glu Ile Asn Gly Gln Asn Val Ile Gly Leu Lys Asp Ser Gln  
 50 55 60

Ile Ala Asp Ile Leu Ser Thr Ser Gly Thr Val Val Thr Ile Thr Ile  
 65 70 75 80

Met Pro Ala Phe Ile Phe Glu His Met Asn Ser Ser  
 85 90

<210> 224  
 <211> 88  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide  
 <400> 224

Leu Glu Ile Lys Gln Gly Ile Arg Glu Val Ile Leu Cys Lys Asp Gln  
 1 5 10 15

Asp Gly Lys Ile Gly Leu Arg Leu Lys Ser Ile Asp Asn Gly Ile Phe  
 20 25 30

Val Gln Leu Val Gln Ala Asn Ser Pro Ala Ser Leu Val Gly Leu Arg  
 35 40 45

Phe Gly Asp Gln Val Leu Gln Ile Asn Gly Glu Asn Cys Ala Gly Trp  
 50 55 60

Ser Ser Asp Lys Ala His Lys Val Leu Lys Gln Ala Phe Gly Glu Lys  
65 70 75 80

Ile Thr Met Arg Ile His Arg Asp  
85

<210> 225  
<211> 94  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 225

Gln Arg Arg Arg Val Thr Val Arg Lys Ala Asp Ala Gly Gly Leu Gly  
1 5 10 15

Ile Ser Ile Lys Gly Gly Arg Glu Asn Lys Met Pro Ile Leu Ile Ser  
20 25 30

Lys Ile Phe Lys Gly Leu Ala Ala Asp Gln Thr Glu Ala Leu Phe Val  
35 40 45

Gly Asp Ala Ile Leu Ser Val Asn Gly Glu Asp Leu Ser Ser Ala Thr  
50 55 60

His Asp Glu Ala Val Gln Val Leu Lys Lys Thr Gly Lys Glu Val Val  
65 70 75 80

Leu Glu Val Lys Tyr Met Lys Asp Val Ser Pro Tyr Phe Lys  
85 90

<210> 226  
<211> 88  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 226

Pro Val Arg Arg Val Arg Val Val Lys Gln Glu Ala Gly Gly Leu Gly  
1 5 10 15

Ile Ser Ile Lys Gly Gly Arg Glu Asn Arg Met Pro Ile Leu Ile Ser  
20 25 30

Lys Ile Phe Pro Gly Leu Ala Ala Asp Gln Ser Arg Ala Leu Arg Leu  
35 40 45

Gly Asp Ala Ile Leu Ser Val Asn Gly Thr Asp Leu Arg Gln Ala Thr  
50 55 60

His Asp Gln Ala Val Gln Ala Leu Lys Arg Ala Gly Lys Glu Val Leu  
65 70 75 80

Leu Glu Val Lys Phe Ile Arg Glu  
85

<210> 227  
<211> 100  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 227

Glu Pro Phe Tyr Ser Gly Glu Arg Thr Val Thr Ile Arg Arg Gln Thr  
1 5 10 15

Val Gly Gly Phe Gly Leu Ser Ile Lys Gly Gly Ala Glu His Asn Ile  
20 25 30

Pro Val Val Val Ser Lys Ile Ser Lys Glu Gln Arg Ala Glu Leu Ser  
35 40 45

Gly Leu Leu Phe Ile Gly Asp Ala Ile Leu Gln Ile Asn Gly Ile Asn  
50 55 60

Val Arg Lys Cys Arg His Glu Glu Val Val Gln Val Leu Arg Asn Ala  
65 70 75 80

Gly Glu Glu Val Thr Leu Thr Val Ser Phe Leu Lys Arg Ala Pro Ala  
85 90 95

Phe Leu Lys Leu  
100

<210> 228  
<211> 99  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 228

Ser His Gln Gly Arg Asn Arg Arg Thr Val Thr Leu Arg Arg Gln Pro  
1 5 10 15

Val Gly Gly Leu Gly Leu Ser Ile Lys Gly Gly Ser Glu His Asn Val  
20 25 30

Pro Val Val Ile Ser Lys Ile Phe Glu Asp Gln Ala Ala Asp Gln Thr  
35 40 45

Gly Met Leu Phe Val Gly Asp Ala Val Leu Gln Val Asn Gly Ile His  
50 55 60

Val Glu Asn Ala Thr His Glu Glu Val Val His Leu Leu Arg Asn Ala  
65 70 75 80

Gly Asp Glu Val Thr Ile Thr Val Glu Tyr Leu Arg Glu Ala Pro Ala  
85 90 95

Phe Leu Lys

<210> 229

<211> 91

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 229

Arg Gly Glu Thr Lys Glu Val Glu Val Thr Lys Thr Glu Asp Ala Leu  
1 5 10 15

Gly Leu Thr Ile Thr Asp Asn Gly Ala Gly Tyr Ala Phe Ile Lys Arg  
20 25 30

Ile Lys Glu Gly Ser Ile Ile Asn Arg Ile Glu Ala Val Cys Val Gly  
35 40 45

Asp Ser Ile Glu Ala Ile Asn Asp His Ser Ile Val Gly Cys Arg His  
50 55 60

Tyr Glu Val Ala Lys Met Leu Arg Glu Leu Pro Lys Ser Gln Pro Phe  
65 70 75 80

Thr Leu Arg Leu Val Gln Pro Lys Arg Ala Phe  
85 90

<210> 230  
<211> 88  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 230

His Ser Ile His Ile Glu Lys Ser Asp Thr Ala Ala Asp Thr Tyr Gly  
1 5 10 15

Phe Ser Leu Ser Ser Val Glu Glu Asp Gly Ile Arg Arg Leu Tyr Val  
20 25 30

Asn Ser Val Lys Glu Thr Gly Leu Ala Ser Lys Lys Gly Leu Lys Ala  
35 40 45

Gly Asp Glu Ile Leu Glu Ile Asn Asn Arg Ala Ala Asp Ala Leu Asn  
50 55 60

Ser Ser Met Leu Lys Asp Phe Leu Ser Gln Pro Ser Leu Gly Leu Leu  
65 70 75 80

Val Arg Thr Tyr Pro Glu Leu Glu  
85

<210> 231  
<211> 97  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 231

Pro Leu Asn Val Tyr Asp Val Gln Leu Thr Lys Thr Gly Ser Val Cys  
1 5 10 15

Asp Phe Gly Phe Ala Val Thr Ala Gln Val Asp Glu Arg Gln His Leu  
20 25 30

Ser Arg Ile Phe Ile Ser Asp Val Leu Pro Asp Gly Leu Ala Tyr Gly  
35 40 45

Glu Gly Leu Arg Lys Gly Asn Glu Ile Met Thr Leu Asn Gly Glu Ala

|                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50                        |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |     |
| Val                       | Ser | Asp | Leu | Asp | Leu | Lys | Gln | Met | Glu | Ala | Leu | Phe | Ser | Glu | Lys |
| 65                        |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser                       | Val | Gly | Leu | Thr | Leu | Ile | Ala | Arg | Pro | Pro | Asp | Thr | Lys | Ala | Thr |
|                           |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu                       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <210> 232                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <211> 103                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <212> PRT                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <213> Artificial Sequence |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <220>                     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <223> Synthetic peptide   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <400> 232                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Gln                       | Arg | Val | Glu | Ile | His | Lys | Leu | Arg | Gln | Gly | Glu | Asn | Leu | Ile | Leu |
| 1                         |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly                       | Phe | Ser | Ile | Gly | Gly | Gly | Ile | Asp | Gln | Asp | Pro | Ser | Gln | Asn | Pro |
|                           |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe                       | Ser | Glu | Asp | Lys | Thr | Asp | Lys | Gly | Ile | Tyr | Val | Thr | Arg | Val | Ser |
|                           |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu                       | Gly | Gly | Pro | Ala | Glu | Ile | Ala | Gly | Leu | Gln | Ile | Gly | Asp | Lys | Ile |
|                           | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Met                       | Gln | Val | Asn | Gly | Trp | Asp | Met | Thr | Met | Val | Thr | His | Asp | Gln | Ala |
| 65                        |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Arg                       | Lys | Arg | Leu | Thr | Lys | Arg | Ser | Glu | Glu | Val | Val | Arg | Leu | Leu | Val |
|                           |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Thr                       | Arg | Gln | Ser | Leu | Gln | Lys |     |     |     |     |     |     |     |     |     |
|                           |     |     | 100 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 233  
 <211> 86  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic peptide



<400> 233

Arg Lys Glu Val Glu Val Phe Lys Ser Glu Asp Ala Leu Gly Leu Thr  
1 5 10 15

Ile Thr Asp Asn Gly Ala Gly Tyr Ala Phe Ile Lys Arg Ile Lys Glu  
20 25 30

Gly Ser Val Ile Asp His Ile His Leu Ile Ser Val Gly Asp Met Ile  
35 40 45

Glu Ala Ile Asn Gly Gln Ser Leu Leu Gly Cys Arg His Tyr Glu Val  
50 55 60

Ala Arg Leu Leu Lys Glu Leu Pro Arg Gly Arg Thr Phe Thr Leu Lys  
65 70 75 80

Leu Thr Glu Pro Arg Lys  
85

<210> 234

<211> 91

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 234

His Ser His Pro Arg Val Val Glu Leu Pro Lys Thr Asp Glu Gly Leu  
1 5 10 15

Gly Phe Asn Val Met Gly Gly Lys Glu Gln Asn Ser Pro Ile Tyr Ile  
20 25 30

Ser Arg Ile Ile Pro Gly Gly Val Ala Glu Arg His Gly Gly Leu Lys  
35 40 45

Arg Gly Asp Gln Leu Leu Ser Val Asn Gly Val Ser Val Glu Gly Glu  
50 55 60

His His Glu Lys Ala Val Glu Leu Leu Lys Ala Ala Lys Asp Ser Val  
65 70 75 80

Lys Leu Val Val Arg Tyr Thr Pro Lys Val Leu  
85 90

<210> 235

<211> 97  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 235

Leu Ser Asn Gln Lys Arg Gly Val Lys Val Leu Lys Gln Glu Leu Gly  
1 5 10 15

Gly Leu Gly Ile Ser Ile Lys Gly Gly Lys Glu Asn Lys Met Pro Ile  
20 25 30

Leu Ile Ser Lys Ile Phe Lys Gly Leu Ala Ala Asp Gln Thr Gln Ala  
35 40 45

Leu Tyr Val Gly Asp Ala Ile Leu Ser Val Asn Gly Ala Asp Leu Arg  
50 55 60

Asp Ala Thr His Asp Glu Ala Val Gln Ala Leu Lys Arg Ala Gly Lys  
65 70 75 80

Glu Val Leu Leu Glu Val Lys Tyr Met Arg Glu Ala Thr Pro Tyr Val  
85 90 95

Lys

<210> 236  
<211> 98  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 236

Ile Gln Arg Ser Ser Ile Lys Thr Val Glu Leu Ile Lys Gly Asn Leu  
1 5 10 15

Gln Ser Val Gly Leu Thr Leu Arg Leu Val Gln Ser Thr Asp Gly Tyr  
20 25 30

Ala Gly His Val Ile Ile Glu Thr Val Ala Pro Asn Ser Pro Ala Ala  
35 40 45

Ile Ala Asp Leu Gln Arg Gly Asp Arg Leu Ile Ala Ile Gly Gly Val  
50 55 60

Lys Ile Thr Ser Thr Leu Gln Val Leu Lys Leu Ile Lys Gln Ala Gly  
65 70 75 80

Asp Arg Val Leu Val Tyr Tyr Glu Arg Pro Val Gly Gln Ser Asn Gln  
85 90 95

Gly Ala

<210> 237  
<211> 103  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 237

Ile Leu Thr Leu Thr Ile Leu Arg Gln Thr Gly Gly Leu Gly Ile Ser  
1 5 10 15

Ile Ala Gly Gly Lys Gly Ser Thr Pro Tyr Lys Gly Asp Asp Glu Gly  
20 25 30

Ile Phe Ile Ser Arg Val Ser Glu Glu Gly Pro Ala Ala Arg Ala Gly  
35 40 45

Val Arg Val Gly Asp Lys Leu Leu Glu Val Asn Gly Val Ala Leu Gln  
50 55 60

Gly Ala Glu His His Glu Ala Val Glu Ala Leu Arg Gly Ala Gly Thr  
65 70 75 80

Ala Val Gln Met Arg Val Trp Arg Glu Arg Met Val Glu Pro Glu Asn  
85 90 95

Ala Glu Phe Ile Val Thr Asp  
100

<210> 238  
<211> 105  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 238

Arg Glu Leu Cys Ile Gln Lys Ala Pro Gly Glu Arg Leu Gly Ile Ser  
1 5 10 15

Ile Arg Gly Gly Ala Arg Gly His Ala Gly Asn Pro Arg Asp Pro Thr  
20 25 30

Asp Glu Gly Ile Phe Ile Ser Lys Val Ser Pro Thr Gly Ala Ala Gly  
35 40 45

Arg Asp Gly Arg Leu Arg Val Gly Leu Arg Leu Leu Glu Val Asn Gln  
50 55 60

Gln Ser Leu Leu Gly Leu Thr His Gly Glu Ala Val Gln Leu Leu Arg  
65 70 75 80

Ser Val Gly Asp Thr Leu Thr Val Leu Val Cys Asp Gly Phe Glu Ala  
85 90 95

Ser Thr Asp Ala Ala Leu Glu Val Ser  
100 105

<210> 239  
<211> 105  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 239

Leu Glu Gly Pro Tyr Pro Val Glu Glu Ile Arg Leu Pro Arg Ala Gly  
1 5 10 15

Gly Pro Leu Gly Leu Ser Ile Val Gly Gly Ser Asp His Ser Ser His  
20 25 30

Pro Phe Gly Val Gln Glu Pro Gly Val Phe Ile Ser Lys Val Leu Pro  
35 40 45

Arg Gly Leu Ala Ala Arg Ser Gly Leu Arg Val Gly Asp Arg Ile Leu  
50 55 60

Ala Val Asn Gly Gln Asp Val Arg Asp Ala Thr His Gln Glu Ala Val  
65 70 75 80

Ser Ala Leu Leu Arg Pro Cys Leu Glu Leu Ser Leu Leu Val Arg Arg  
85 90 95

Asp Pro Ala Glu Phe Ile Val Thr Asp  
100 105

<210> 240  
<211> 97  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 240

Pro Leu Arg Gln Arg His Val Ala Cys Leu Ala Arg Ser Glu Arg Gly  
1 5 10 15

Leu Gly Phe Ser Ile Ala Gly Gly Lys Gly Ser Thr Pro Tyr Arg Ala  
20 25 30

Gly Asp Ala Gly Ile Phe Val Ser Arg Ile Ala Glu Gly Gly Ala Ala  
35 40 45

His Arg Ala Gly Thr Leu Gln Val Gly Asp Arg Val Leu Ser Ile Asn  
50 55 60

Gly Val Asp Val Thr Glu Ala Arg His Asp His Ala Val Ser Leu Leu  
65 70 75 80

Thr Ala Ala Ser Pro Thr Ile Ala Leu Leu Leu Glu Arg Glu Ala Gly  
85 90 95

Gly

<210> 241  
<211> 114  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 241

Thr Leu Thr Ile Leu Arg Gln Thr Gly Gly Leu Gly Ile Ser Ile Ala  
1 5 10 15

Gly Gly Lys Gly Ser Thr Pro Tyr Lys Gly Asp Asp Glu Gly Ile Phe  
20 25 30

Ile Ser Arg Val Ser Glu Glu Gly Pro Ala Ala Arg Ala Gly Val Arg  
35 40 45

Val Gly Asp Lys Leu Leu Glu Gly Ile Phe Val Ser Arg Ile Ala Glu  
50 55 60

Gly Gly Ala Ala His Arg Ala Gly Thr Leu Gln Val Gly Asp Arg Val  
65 70 75 80

Leu Ser Ile Asn Gly Val Asp Val Thr Glu Ala Arg His Asp His Ala  
85 90 95

Val Ser Leu Leu Thr Ala Ala Ser Pro Thr Ile Ala Leu Leu Leu Glu  
100 105 110

Arg Glu

<210> 242  
<211> 95  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 242

Ile Pro Pro Val Thr Thr Val Leu Ile Lys Arg Pro Asp Leu Lys Tyr  
1 5 10 15

Gln Leu Gly Phe Ser Val Gln Asn Gly Ile Ile Cys Ser Leu Met Arg  
20 25 30

Gly Gly Ile Ala Glu Arg Gly Gly Val Arg Val Gly His Arg Ile Ile  
35 40 45

Glu Ile Asn Gly Gln Ser Val Val Ala Thr Ala His Glu Lys Ile Val  
50 55 60

Gln Ala Leu Ser Asn Ser Val Gly Glu Ile His Met Lys Thr Met Pro  
65 70 75 80

Ala Ala Met Phe Arg Leu Leu Thr Gly Gln Glu Asn Ser Ser Leu  
85 90 95

<210> 243

<211> 110  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 243

Ile His Phe Ser Asn Ser Glu Asn Cys Lys Glu Leu Gln Leu Glu Lys  
1 5 10 15

His Lys Gly Glu Ile Leu Gly Val Val Val Val Glu Ser Gly Trp Gly  
20 25 30

Ser Ile Leu Pro Thr Val Ile Leu Ala Asn Met Met Asn Gly Gly Pro  
35 40 45

Ala Ala Arg Ser Gly Lys Leu Ser Ile Gly Asp Gln Ile Met Ser Ile  
50 55 60

Asn Gly Thr Ser Leu Val Gly Leu Pro Leu Ala Thr Cys Gln Gly Ile  
65 70 75 80

Ile Lys Gly Leu Lys Asn Gln Thr Gln Val Lys Leu Asn Ile Val Ser  
85 90 95

Cys Pro Pro Val Thr Thr Val Leu Ile Lys Arg Asn Ser Ser  
100 105 110

<210> 244  
<211> 101  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 244

Ile Trp Glu Gln His Thr Val Thr Leu His Arg Ala Pro Gly Phe Gly  
1 5 10 15

Phe Gly Ile Ala Ile Ser Gly Gly Arg Asp Asn Pro His Phe Gln Ser  
20 25 30

Gly Glu Thr Ser Ile Val Ile Ser Asp Val Leu Lys Gly Gly Pro Ala  
35 40 45

Glu Gly Gln Leu Gln Glu Asn Asp Arg Val Ala Met Val Asn Gly Val  
50 55 60

Ser Met Asp Asn Val Glu His Ala Phe Ala Val Gln Gln Leu Arg Lys  
65 70 75 80

Ser Gly Lys Asn Ala Lys Ile Thr Ile Arg Arg Lys Lys Lys Val Gln  
85 90 95

Ile Pro Asn Ser Ser  
100

<210> 245  
<211> 95  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 245

Ile Ser Ser Gln Pro Ala Lys Pro Thr Lys Val Thr Leu Val Lys Ser  
1 5 10 15

Arg Lys Asn Glu Glu Tyr Gly Leu Arg Leu Ala Ser His Ile Phe Val  
20 25 30

Lys Glu Ile Ser Gln Asp Ser Leu Ala Ala Arg Asp Gly Asn Ile Gln  
35 40 45

Glu Gly Asp Val Val Leu Lys Ile Asn Gly Thr Val Thr Glu Asn Met  
50 55 60

Ser Leu Thr Asp Ala Lys Thr Leu Ile Glu Arg Ser Lys Gly Lys Leu  
65 70 75 80

Lys Met Val Val Gln Arg Asp Arg Ala Thr Leu Leu Asn Ser Ser  
85 90 95

<210> 246  
<211> 90  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 246

Ile Arg Met Lys Leu Val Lys Phe Arg Lys Gly Asp Ser Val Gly Leu  
1 5 10 15



Arg Leu Ala Gly Gly Asn Asp Val Gly Ile Phe Val Ala Gly Val Leu  
20 25 30

Glu Asp Ser Pro Ala Ala Lys Glu Gly Leu Glu Glu Gly Asp Gln Ile  
35 40 45

Leu Arg Val Asn Asn Val Asp Phe Thr Asn Ile Ile Arg Glu Glu Ala  
50 55 60

Val Leu Phe Leu Leu Asp Leu Pro Lys Gly Glu Glu Val Thr Ile Leu  
65 70 75 80

Ala Gln Lys Lys Lys Asp Val Phe Ser Asn  
85 90

<210> 247  
<211> 99  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 247

Ile Gln His Thr Val Thr Leu His Arg Ala Pro Gly Phe Gly Phe Gly  
1 5 10 15

Ile Ala Ile Ser Gly Gly Arg Asp Asn Pro His Phe Gln Ser Gly Glu  
20 25 30

Thr Ser Ile Val Ile Ser Asp Val Leu Lys Gly Gly Pro Ala Glu Gly  
35 40 45

Gln Leu Gln Glu Asn Asp Arg Val Ala Met Val Asn Gly Val Ser Met  
50 55 60

Asp Asn Val Glu His Ala Phe Ala Val Gln Gln Leu Arg Lys Ser Gly  
65 70 75 80

Lys Asn Ala Lys Ile Thr Ile Arg Arg Lys Lys Lys Val Gln Ile Pro  
85 90 95

Asn Ser Ser

<210> 248  
<211> 90

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 248

His Ala Pro Asn Thr Lys Met Val Arg Phe Lys Lys Gly Asp Ser Val  
1 5 10 15

Gly Leu Arg Leu Ala Gly Gly Asn Asp Val Gly Ile Phe Val Ala Gly  
20 25 30

Ile Gln Glu Gly Thr Ser Ala Glu Gln Glu Gly Leu Gln Glu Gly Asp  
35 40 45

Gln Ile Leu Lys Val Asn Thr Gln Asp Phe Arg Gly Leu Val Arg Glu  
50 55 60

Asp Ala Val Leu Tyr Leu Leu Glu Ile Pro Lys Gly Glu Met Val Thr  
65 70 75 80

Ile Leu Ala Gln Ser Arg Ala Asp Val Tyr  
85 90

<210> 249  
<211> 79  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 249

Arg Val Leu Leu Met Lys Ser Arg Ala Asn Glu Glu Tyr Gly Leu Arg  
1 5 10 15

Leu Gly Ser Gln Ile Phe Val Lys Glu Met Thr Arg Thr Gly Leu Ala  
20 25 30

Thr Lys Asp Gly Asn Leu His Glu Gly Asp Ile Ile Leu Lys Ile Asn  
35 40 45

Gly Thr Val Thr Glu Asn Met Ser Leu Thr Asp Ala Arg Lys Leu Ile  
50 55 60

Glu Lys Ser Arg Gly Lys Leu Gln Leu Val Val Leu Arg Asp Ser  
65 70 75

<210> 250  
 <211> 104  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 250

Arg Gly Tyr Ser Pro Asp Thr Arg Val Val Arg Phe Leu Lys Gly Lys  
 1 5 10 15

Ser Ile Gly Leu Arg Leu Ala Gly Gly Asn Asp Val Gly Ile Phe Val  
 20 25 30

Ser Gly Val Gln Ala Gly Ser Pro Ala Asp Gly Gln Gly Ile Gln Glu  
 35 40 45

Gly Asp Gln Ile Leu Gln Val Asn Asp Val Pro Phe Gln Asn Leu Thr  
 50 55 60

Arg Glu Glu Ala Val Gln Phe Leu Leu Gly Leu Pro Pro Gly Glu Glu  
 65 70 75 80

Met Glu Leu Val Thr Gln Arg Lys Gln Asp Ile Phe Trp Lys Met Val  
 85 90 95

Gln Ser Glu Phe Ile Val Thr Asp  
 100

<210> 251  
 <211> 106  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 251

Ile Pro Gly Asn Ser Thr Ile Trp Glu Gln His Thr Ala Thr Leu Ser  
 1 5 10 15

Lys Asp Pro Arg Arg Gly Phe Gly Ile Ala Ile Ser Gly Gly Arg Asp  
 20 25 30

Arg Pro Gly Gly Ser Met Val Val Ser Asp Val Val Pro Gly Gly Pro  
 35 40 45

Ala Glu Gly Arg Leu Gln Thr Gly Asp His Ile Val Met Val Asn Gly  
 50 55 60

Val Ser Met Glu Asn Ala Thr Ser Ala Phe Ala Ile Gln Ile Leu Lys  
 65 70 75 80

Thr Cys Thr Lys Met Ala Asn Ile Thr Val Lys Arg Pro Arg Arg Ile  
 85 90 95

His Leu Pro Ala Glu Phe Ile Val Thr Asp  
 100 105

<210> 252  
 <211> 98  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 252

Gln Asp Val Gln Met Lys Pro Val Lys Ser Val Leu Val Lys Arg Arg  
 1 5 10 15

Asp Ser Glu Glu Phe Gly Val Lys Leu Gly Ser Gln Ile Phe Ile Lys  
 20 25 30

His Ile Thr Asp Ser Gly Leu Ala Ala Arg His Arg Gly Leu Gln Glu  
 35 40 45

Gly Asp Leu Ile Leu Gln Ile Asn Gly Val Ser Ser Gln Asn Leu Ser  
 50 55 60

Leu Asn Asp Thr Arg Arg Leu Ile Glu Lys Ser Glu Gly Lys Leu Ser  
 65 70 75 80

Leu Leu Val Leu Arg Asp Arg Gly Gln Phe Leu Val Asn Ile Pro Asn  
 85 90 95

Ser Ser

<210> 253  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic peptide

<400> 253

Gly Ile Pro Gly Asn  
1 5

<210> 254

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 254

Gly Gly Gly Gly Ser  
1 5

<210> 255

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 255

Glu Gly Lys Ser Ser Gly Ser Gly Ser Glu Ser Lys Val Asp  
1 5 10

<210> 256

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 256

Lys Glu Ser Gly Ser Val Ser Ser Glu Gln Leu Ala Gln Phe Arg Ser  
1 5 10 15

Leu Asp

<210> 257

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 257

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg  
1 5 10

<210> 258

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 258

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ser Thr Asn Ser Val  
1 5 10 15

Arg Leu Met Leu  
20

<210> 259

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 259

Arg Arg Ser Thr Asn Ser Val Arg Leu Met Leu  
1 5 10

<210> 260

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 260

Ser Thr Asn Ser Val Arg Leu Met Leu  
1 5

<210> 261

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 261

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Val Ala Ala Thr  
1 5 10 15

Ser Ile Asn Leu  
20

<210> 262  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 262

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Ser Asp Arg  
1 5 10 15

Thr Ile Trp Ala  
20

<210> 263  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 263

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Ser Asp Arg  
1 5 10 15

Thr Ile Ile Ala  
20

<210> 264  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 264

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ser Arg Thr Asp Arg  
1 5 10 15

Lys Tyr Trp Ala  
20

<210> 265  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 265

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
1 5 10 15

Lys Ile Arg Val  
20

<210> 266  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 266

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Thr Asp Arg  
1 5 10 15

Lys Val Glu Val  
20

<210> 267  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 267

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
1 5 10 15

Lys Tyr Ile Val  
20

<210> 268  
<211> 20  
<212> PRT  
<213> Artificial Sequence



<220>

<223> Synthetic peptide

<400> 268

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ser Arg Thr Asp Arg  
1 5 10 15

Lys Tyr Gln Ile  
20

<210> 269

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 269

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
1 5 10 15

Lys Val Pro Val  
20

<210> 270

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 270

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Gln Asp Glu Arg Arg  
1 5 10 15

Leu Ile Val Leu  
20

<210> 271

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 271

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg

1 5 10 15

Leu Val Ser Leu  
20

<210> 272  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 272

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Thr Arg  
1 5 10 15

Leu Val Trp Val  
20

<210> 273  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 273

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
1 5 10 15

Tyr Arg Ile Val  
20

<210> 274  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 274

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ser Arg Thr Asp Arg  
1 5 10 15

Leu Glu Tyr Val  
20

<210> 275  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 275

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
1 5 10 15

Thr Ile Ile Tyr  
20

<210> 276  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 276

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Lys Asn Lys Asp Lys  
1 5 10 15

Glu Tyr Tyr Val  
20

<210> 277  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 277

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Arg Arg  
1 5 10 15

Glu Thr Trp Val  
20

<210> 278  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 278

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Glu Lys His Phe Arg  
1 5 10 15

Glu Thr Glu Val  
20

<210> 279

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 279

Ala Ala Gly Gly Arg Ser Ala Arg Gly Gly Arg Leu Gln Gly Arg Arg  
1 5 10 15

Glu Thr Ala Leu  
20

<210> 280

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 280

Ala Thr Asp Tyr Leu Val Gln Pro Phe Met Asp Gln Leu Ala Phe His  
1 5 10 15

Gln Phe Tyr Ile  
20

<210> 281

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 281

Ala Val Gly Gly Arg Pro Ala Arg Gly Gly Arg Leu Gln Gly Arg Arg  
1 5 10 15

Gln Thr Gln Val  
20

<210> 282  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 282

Asp Phe Arg Pro Ser Phe Lys His Ile Leu Phe Arg Arg Ala Arg Arg  
1 5 10 15

Gly Phe Arg Gln  
20

<210> 283  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 283

Asp Gly Gly Ala Arg Thr Glu Asp Glu Val Gln Ser Tyr Pro Ser Lys  
1 5 10 15

His Asp Tyr Val  
20

<210> 284  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 284

Asp Thr Leu Leu Leu Thr Glu Asn Glu Gly Asp Lys Thr Glu Glu Gln  
1 5 10 15

Val Ser Tyr Val  
20

<210> 285  
<211> 20  
<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 285

Glu Leu Leu Gln Phe Cys Arg Thr Pro Asn Pro Ala Leu Lys Asn Gly  
1 5 10 15

Gln Tyr Trp Val  
20

<210> 286

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 286

Glu Asn Leu Glu Leu Pro Val Asn Pro Ser Ser Val Val Ser Glu Arg  
1 5 10 15

Ile Ser Ser Val  
20

<210> 287

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 287

Phe His Ser Lys Thr Ala Gly Ala Asn Thr Thr Asp Lys Glu Leu Glu  
1 5 10 15

Val Leu Ser Leu  
20

<210> 288

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 288

Phe Asn Gly Ser Ser Asn Gly His Val Tyr Glu Lys Leu Ser Ser Ile  
1 5 10 15

Glu Ser Asp Val  
20

<210> 289  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 289

Gly Arg Trp Thr Gly Arg Ala Met Ser Ala Trp Lys Pro Thr Arg Arg  
1 5 10 15

Glu Thr Glu Val  
20

<210> 290  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 290

His Ala Met Asn Ala Ala Pro Arg Ala Met Glu Asn Ala Pro Ala Leu  
1 5 10 15

Arg Thr Ser His  
20

<210> 291  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 291

His Asp Phe Arg Arg Ala Phe Lys Lys Ile Leu Ala Arg Gly Asp Arg  
1 5 10 15

Lys Arg Ile Val  
20

<210> 292  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 292

His His Leu Val Ala Gln Arg Asp Ile Arg Gln Phe Gln Leu Gln His  
1 5 10 15

Trp Leu Ala Ile  
20

<210> 293  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 293

His Ser Cys Cys Asn Arg Ala Arg Gln Glu Arg Leu Gln Arg Arg Arg  
1 5 10 15

Glu Thr Gln Val  
20

<210> 294  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 294

Ile Leu Asn Ser Ile Gln Val Met Arg Ala Gln Met Asn Gln Ile Gln  
1 5 10 15

Ser Val Glu Val  
20

<210> 295  
<211> 20  
<212> PRT  
<213> Artificial Sequence



<220>

<223> Synthetic peptide

<400> 295

Lys Ala Gly Tyr Arg Ala Pro Arg Ser Tyr Pro Lys Ser Asn Ser Ser  
1 5 10 15

Lys Glu Tyr Val  
20

<210> 296

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 296

Lys His Ser Arg Lys Ser Ser Ser Tyr Ser Ser Ser Ser Thr Thr Val  
1 5 10 15

Lys Thr Ser Tyr  
20

<210> 297

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 297

Lys Lys Lys Lys Gln Pro Gly Asn Ser Thr Lys Glu Ser Glu Ser Thr  
1 5 10 15

Asn Ser Val Arg Leu Met Leu  
20

<210> 298

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 298

Lys Thr Met Pro Ala Ala Met Phe Arg Leu Leu Thr Gly Gln Glu Thr  
1 5 10 15

Pro Leu Tyr Ile  
20

<210> 299  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 299

Lys Thr Met Pro Ala Ala Met Tyr Arg Leu Leu Thr Ala Gln Glu Gln  
1 5 10 15

Pro Val Tyr Ile  
20

<210> 300  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 300

Lys Thr Met Pro Ala Ala Thr Tyr Arg Leu Leu Thr Gly Gln Glu Gln  
1 5 10 15

Pro Val Tyr Leu  
20

<210> 301  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 301

Lys Tyr Ser Ala Pro Arg Arg Pro Thr Ala Thr Gly Asp Tyr Asp Lys  
1 5 10 15

Lys Asn Tyr Val  
20

<210> 302

<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 302

Leu Ala Ser Lys Ser Ala Glu Glu Gly Lys Gln Ile Pro Asp Ser Leu  
1 5 10 15

Ser Thr Asp Leu  
20

<210> 303  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 303

Leu Ala Val Leu Ala Tyr Ser Ile Thr Leu Val Met Leu Trp Ser Ile  
1 5 10 15

Trp Gln Tyr Ala  
20

<210> 304  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 304

Leu Glu Arg Thr Ser Ser Val Ser Pro Ser Thr Ala Glu Pro Glu Leu  
1 5 10 15

Ser Ile Val Phe  
20

<210> 305  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 305

Leu Asn Ser Cys Ser Asn Arg Arg Val Tyr Lys Lys Met Pro Ser Ile  
1 5 10 15

Glu Ser Asp Val  
20

<210> 306

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 306

Leu Gln Phe His Arg Gly Ser Arg Ala Gln Ser Phe Leu Gln Thr Glu  
1 5 10 15

Thr Ser Val Ile  
20

<210> 307

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 307

Asn Tyr Lys Leu Asn Thr Asp His Ala Gly Ser Asn Asp Asn Ile Ala  
1 5 10 15

Leu Leu Val Gln  
20

<210> 308

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 308

Pro Gly Gln Pro Pro Lys Val Lys Ser Glu Phe Asn Ser Tyr Ser Leu  
1 5 10 15

Thr Gly Tyr Val

20

<210> 309  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 309

Pro Ile Pro Ala Gly Gly Cys Thr Phe Ser Gly Ile Phe Pro Thr Leu  
1 5 10 15

Thr Ser Pro Leu  
20

<210> 310  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 310

Pro Ser Ser Arg Ala Ser Ser Arg Ala Ser Ser Arg Pro Arg Pro Asp  
1 5 10 15

Asp Leu Glu Ile  
20

<210> 311  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 311

Pro Tyr Ser Glu Leu Asn Tyr Glu Thr Ser His Tyr Pro Ala Ser Pro  
1 5 10 15

Asp Ser Trp Val  
20

<210> 312  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 312

Gln Asp Phe Arg Arg Ala Phe Arg Arg Ile Leu Ala Arg Pro Trp Thr  
1 5 10 15

Gln Thr Ala Trp  
20

<210> 313

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 313

Gln Gly Asp Pro Ala Leu Gln Asp Ala Gly Asp Ser Ser Arg Lys Glu  
1 5 10 15

Tyr Phe Ile

<210> 314

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 314

Gln Ile Ser Pro Gly Gly Leu Glu Pro Pro Ser Glu Lys His Phe Arg  
1 5 10 15

Glu Thr Glu Val  
20

<210> 315

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 315

Arg Glu Leu Val Asp Arg Gly Glu Val Arg Gln Phe Thr Leu Arg His  
1 5 10 15

Trp Leu Lys Val  
20

<210> 316  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 316

Arg Arg Arg Arg Arg Arg Arg Gly Asn Thr Thr Asp Lys Glu Leu Glu  
1 5 10 15

Val Leu Ser Leu  
20

<210> 317  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 317

Arg Arg Arg Arg Arg Arg Arg Gly Thr Asn Pro Ala Val Ala Ala Thr  
1 5 10 15

Ser Ala Asn Leu  
20

<210> 318  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 318

Arg Ser Gly Ala Thr Ile Pro Leu Val Gly Gln Asp Ile Ile Asp Leu  
1 5 10 15

Gln Thr Glu Val  
20

<210> 319  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 319

Ser Leu Ile Gly Pro Val Gln Lys Glu Tyr Gln Arg Glu Leu Gly Lys  
1 5 10 15

Leu Ser Ser Pro  
20

<210> 320  
<211> 19  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 320

Ser Ser Lys Ser Lys Ser Ser Glu Glu Ser Gln Thr Phe Phe Gly Leu  
1 5 10 15

Tyr Lys Leu

<210> 321  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 321

Ser Ser Pro Asp Ser Ser Tyr Gln Gly Lys Gly Phe Val Met Ser Arg  
1 5 10 15

Ala Met Tyr Val  
20

<210> 322  
<211> 20  
<212> PRT  
<213> Artificial Sequence



<220>

<223> Synthetic peptide

<400> 322

Ser Ser Ser Arg Arg Asp Ser Ser Trp Ser Glu Thr Ser Glu Ala Ser  
1 5 10 15

Tyr Ser Gly Leu  
20

<210> 323

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 323

Ser Thr Asp Asn Leu Val Arg Pro Phe Met Asp Thr Leu Ala Ser His  
1 5 10 15

Gln Leu Tyr Ile  
20

<210> 324

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 324

Thr Glu Gly Asn Glu Ser Ser Glu Ala Thr Ser Pro Val Asn Ala Ile  
1 5 10 15

Tyr Ser Leu Ala  
20

<210> 325

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 325

Thr Phe Lys Gly Thr Pro Thr Ala Glu Asn Pro Glu Tyr Leu Gly Leu  
1 5 10 15

Asp Val Pro Val  
20

<210> 326  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic peptide

<400> 326

Thr Gly Ser Ala Leu Gln Ala Trp Arg His Thr Ser Arg Gln Ala Thr  
1 5 10 15

Glu Ser Thr Val  
20

<210> 327  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 327

Thr Gln Gly Phe Pro Gly Pro Ala Thr Trp Arg Arg Ile Ser Ser Leu  
1 5 10 15

Glu Ser Glu Val  
20

<210> 328  
<211> 19  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 328

Thr Thr Asn Asn Asn Pro Asn Ser Ala Val Asn Ile Lys Lys Ile Phe  
1 5 10 15

Thr Asp Val

<210> 329

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 329

Val Asp Pro Asn Ser Pro Ala Ala Lys Lys Lys Tyr Val Ser Tyr Asn  
1 5 10 15

Asn Leu Val Ile

20

<210> 330

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 330

Val His Asp Ala Glu Ser Ser Asp Glu Asp Gly Tyr Asp Trp Gly Pro  
1 5 10 15

Ala Thr Asp Leu

20

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Leu Tyr Ile Ile

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 Val Pro Gly Ala Leu Asp Tyr Ala Ala Phe Ser Ser Ala Leu Tyr Gly  
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Glu Ser Asp Leu  
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<400> 333

Val Pro Ser Asp Asn Ile Asp Ser Gln Gly Arg Asn Ala Ser Thr Asn  
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Asp Ser Leu Leu  
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<400> 334

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
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Lys Ile Arg Val  
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<400> 335

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg

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Lys Lys Ile Val  
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Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
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Lys Arg Trp Ala  
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Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
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Lys Arg Trp Leu  
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Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
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Lys Val Pro Val  
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Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
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Lys Tyr Ile Val  
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Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
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Leu Glu Ile Val  
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Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Gly Asp Arg  
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Leu Val Ser Leu  
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Arg Arg Ile Val  
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Tyr Arg Ile Val  
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Glu Thr Trp Val  
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Gly Ile Trp Ala  
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Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Ser Asp Arg  
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Lys Arg Ile Ala  
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Lys Arg Ile Val  
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Thr Ile Ile Ala  
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Thr Ile Trp Ala  
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Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Arg Thr Asp Arg  
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Lys Val Glu Val  
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Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Val Ala Ala Ala  
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Ser Ala Asn Leu  
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Ser Thr Gln Ala  
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Ser Ser Val Val  
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Glu Ser Asp Val  
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Asp Leu Leu Val  
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Lys Tyr Gln Ile  
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Lys Tyr Trp Ala  
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Glu Ile Trp Ala  
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Ser Ile Asn Leu  
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Pro Ile Asp Leu  
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Asp Leu Leu Val  
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